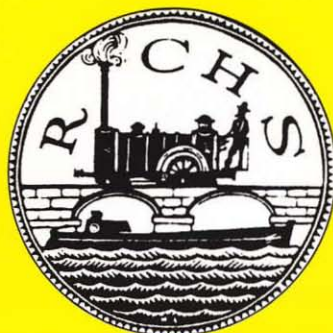




Journal

of the

Railway and Canal Historical Society

RAILWAY & CANAL HISTORICAL SOCIETY

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Editorial

As all of you no doubt know by now, this is the last issue of the Journal that I shall edit. I have been editor since 1994 – my first effort was the November 1994 issue – so I now feel that it is time to hand over to someone else. I have enjoyed being editor and have got to know many people that I might otherwise not have done. Nor surprisingly, there have been difficulties at times, not least over the changed page size and format.

The new editor will be Peter Brown, whose address has already appeared in the Bulletin and which is also on the front page of this issue. Please remember to send all future articles and correspondence to him.

Finally, I would like to thank all those who have contributed to the Journal while I have been editor. Without you, there could be no Journal.

The National Archive of Railway Oral History: Origins and Organisation

BY BASIL TELLWRIGHT

The Archive is the brainchild of the Friends of the National Railway Museum and has been actively developed by Frank Paterson, former General Manager of the Eastern Region of British Rail and currently deputy chairman of the Friends. Over several years, the idea for the Archive has developed into a full funding proposal, which was approved by the Heritage Lottery Fund in October 1999. Frank is now Chairman of the National Archive of Railway History (NAROH) Steering group and a volunteer interviewer for the Archive.

The Archive has been funded with £95,000 from the HLF and £9,000 from the Friends. The other part of the matching funding from the Friends is £75,000 of 'in kind' funding, which is calculated in terms of the number of voluntary hours given by the interviewers and other volunteers. (A seven-hour working day = £150). The HLF funding came on-stream in February 2000 and the draw-down of funds will continue until June 2003.

Recognising the need for both commitment from the railway industry and expertise from the world of oral history, the Friends established a group of advisers and partners for the project from whom they could seek advice and support. Key advisers were invited to join the NAROH steering group which meets every six months at the National Railway Museum. The steering group sets the strategic direction for the project, with advice from the project director and project co-ordinator, who are responsible for the day-to-day running of the project.

The project has three key aims:

- 1 To record 500 interviews with former and current railway employees
- 2 To transcribe 250 of the interviews
- 3 To collect information about other railway oral history held elsewhere in the UK.

NAROH currently relies on the work of 22 volunteer interviewers, two volunteer

transcription checkers and two volunteer administrators. In addition, part of the funding covers the employment costs of a full-time project co-ordinator and of six casual part-time staff who undertake the transcription of the project.

The project co-ordinator is a fully integrated member of the National Railway Museum, which also provides some administrative support for the project. The Archive is also integrated into the Museum through the NAROH working group, which is composed of the Project Director and Co-ordinator, as well as representatives from the Museum's curatorial and interpretation departments and from the Friends. The success of the working group has led to early plans to include some of the recorded material in temporary exhibitions at the NRM during 2001.

The volunteer interviewers were trained in interviewing techniques and use of the mini disc recording equipment in a two-day session in York in April 2000, run by Dr Rob Perks, Curator of Oral History at the National Sound Archive. In December 2000, a progress meeting was held to discuss different experiences and to refine elements of the project's implementation. It is planned that the interviewers will meet twice a year throughout the project in order to maintain standards and motivation, as well as to learn from each others' experience. The interviewers also have individual telephone conversations and meetings with the project co-ordinator as and when required.

The Archive is growing rapidly into a multi-faceted and wide ranging record of the experiences of working in the railway industry during the 1900s. It has a wide span in terms of time, geography and activity, covering records from boy messengers, lad porters, junior clerks, signalmen, drivers, stationmasters, and managers of all disciplines, from Gloucestershire to Tyne and Wear, from Cornwall to East Anglia and from London to Inverness.

At the last count, the Archive held 127 recordings and 46 transcripts.

To give an idea of some of the interviews, a few short extracts follow.

Mrs Christina Newton worked in the mineral manager's typing pool at York from 1936 to 1939. She gave details of concerns for employees' welfare, for example, each typist being provided with a small foot stall, being shown the correct posture for typing and having to stand up and walk around the desk once every hour. She continued, 'Those Underwoods were jolly good machines and you could get up a real speed on them.' Her typing speed was 62 and shorthand speed about 80.

At 80, I was doing copperplate stuff that anybody in the office could read but I could write at a hundred but I didn't like to, and in any case, most of the men kept you dangling about there, they didn't think very quickly either. Well, you knew what was coming pretty well. The letters were all much the same. All the same, you know, any of us would type at least 50 pages of shorthand a day... they would think that was slavery now but it was very work-intensive and we used to get little cross-bursts on our fingertips.

Harry Arrowsmith was a permanent way man, who talked about day-to-day railway maintenance. He was a member of a gang that was responsible for up to five miles of track, laid with 60 ft rails.

We always liked to get plate-oiling done before spring, before warm weather started coming in. If you got a good day, say in January or February, you could do some plates while it was warm and you could catch up on it like that. Never leave it [until]

the last week before spring, otherwise you could be oiling plates in hot weather... which would defeat your own object because that was the idea of oiling plates, so they were well oiled prior to hot weather starting, to allow the expansion to move.

The first managing director of BR Hovercraft Ltd, Tony Brindle, recalled some of the varied aspects of his job, including problems with engines and necessity for a test-run when an engine had been replaced.

I remember going off with the engineers one morning. We steamed down the western Solent on a beautiful spring morning, we got to the Needles and one of the engineers said, 'What a lovely day to go to France.' And we thought, 'What a good idea.' So we went and we parked the hovercraft on the beach, went and had a cup of coffee, took off and came back... through the eastern Solent and logged it as a trip round the Isle of Wight, which it was, of course.

He concluded, 'it was a lot of fun and sometimes very amusing.'

Leslie Lamb was stationmaster at Church Fenton and recalled the pigeon traffic, a significant traffic in its day, requiring the use of specialist railway vehicles.

Early on Saturday morning [the pigeon baskets] were all got out and stacked up... in a kind of open semicircle, four or five high and in blocks of 20... an arrangement was made as to what time they should be let go and anyone who had a penknife was enrolled to cut open the door on the baskets on a given signal... It was a marvellous sight to see all those birds setting off. They were flying round in a circle for a few minutes and then once they found their bearings, I don't know how, off they would go and they just disappeared over the horizon.

Notes:

This short article is based on the Clinker Lecture for 2001.

The editor wishes to thank the Friends of the National Railway Museum, who hold the copyright of the interview tapes, for permission to use these extracts.

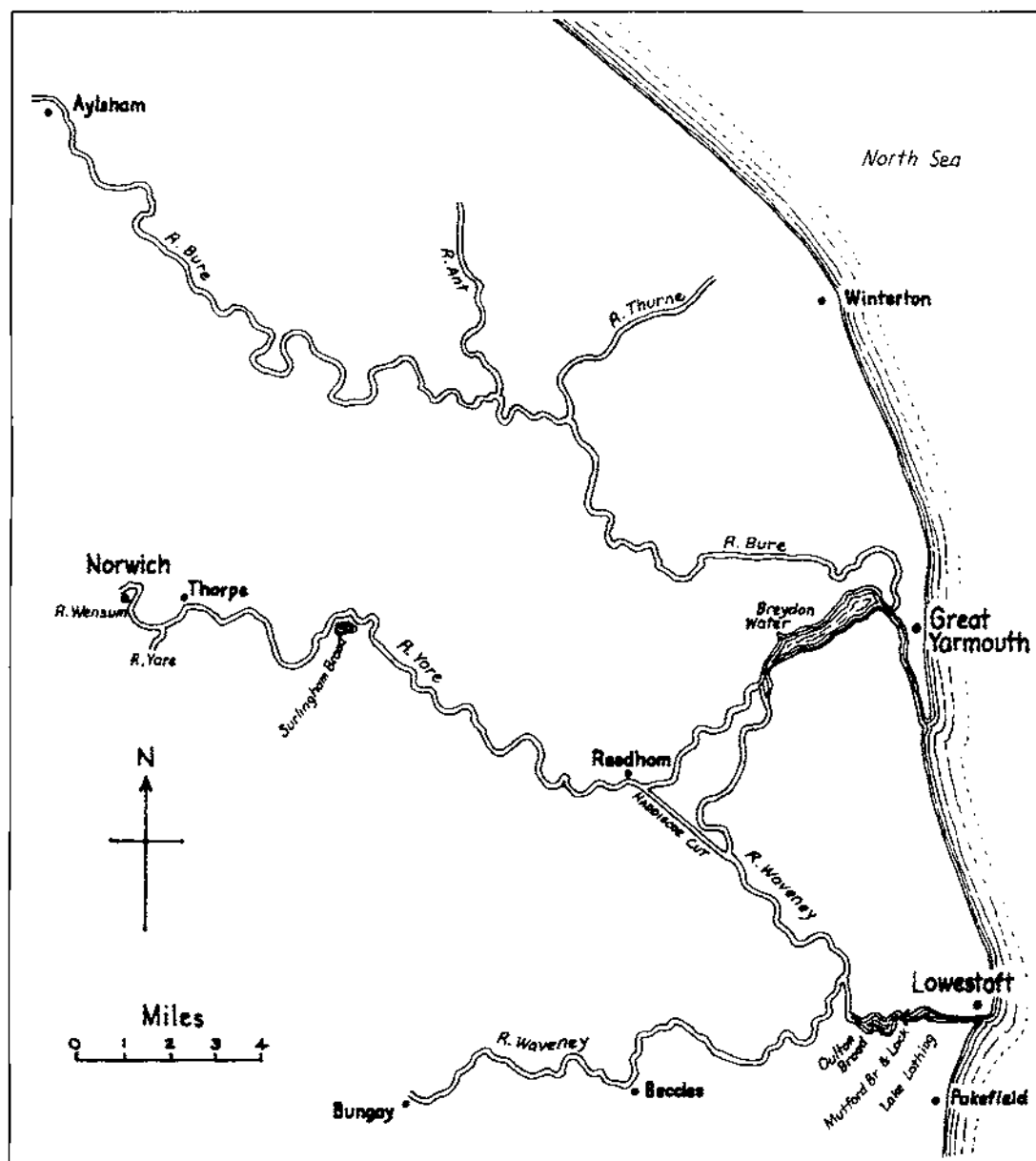
'Norwich a Port!': Part 1 The Norwich & Lowestoft Navigation, 1814–1827

BY PETER BROWN

Norwich and Yarmouth

In 1811, Norwich was a thriving city of 37,300 people, the population of which was set to grow by a third in the next decade. The principal industry was textiles, particularly high quality crapes, silks and mixed fabrics. It also had food processing industries and foundries, was the administrative centre for Norfolk and the market for a wide area of the county. At that time, the city lay mainly within the loop of the River Wensum.

Just below the city boundary, the River Wensum is joined by the River Yare, and it is by the latter name that it is known for the rest of the passage down to the port of Yarmouth. The river is tidal up to New Mills, just over 30 miles upstream of the mouth of the river. Until 1810 the first fixed bridge, coming upstream, was the 13th century Bishop Bridge. In that



year Carrow Bridge was erected at the southern boundary of the city; the following year, Foundry Bridge was opened on the new alignment of the main road to Yarmouth.

Above Yarmouth, and stretching for some four miles inland, is Breydon Water, a lake at high tide but mainly mudflats at low tide. Twice a day this lake is filled from the sea, and twice a day the water flows quickly out through the narrow river at Yarmouth, providing a natural scour to keep the harbour entrance open. Although vital to Yarmouth, Breydon Water was a hindrance to Norwich, as its shallowness at the western end, where the Rivers Yare and Waveney join, limited the size of vessels which could go upstream to 20 to 40 tons.

Great Yarmouth was a long-established town, with a population in 1811 totalling 19,700. Its prosperity depended on the sea, being England's principal herring port and a major naval base, as well as the port for Norwich.

An Act of Parliament of 1670 transferred responsibility for the haven (harbour) from the Corporation of Great Yarmouth to Commissioners of the Haven & Piers, who were given more positive duties to manage and maintain the harbour. Of the eight Commissioners, two were to be appointed by each of the Borough of Great Yarmouth, the City of Norwich, the County of Norfolk and the County of Suffolk. Further Acts followed. That of 1723 included powers to make more easily navigable the rivers to Yarmouth, that is, the Yare, the Waveney and the 'northern rivers' (the Bure, Ant and Thurne). The Act of 1747 increased the number of Commissioners to twelve, with three from each of the nominating bodies.

Much of the work was done through the local Commissioners, each group receiving a set share of the tolls and having delegated powers to spend it.

The tolls that could be charged were set out in the various Acts, as were the purposes for which they could be used. Under the Act in force in the 1810s, for every chaldron of coal, last of grain or ton of other merchandise (excluding fish) brought into the Haven a toll of between ten and twelve pence could be charged, of which one & a half pence would be paid to the City of Norwich for maintaining and improving the Rivers Wensum and Yare between New Mills in Norwich and Hardley Cross (a mile west of Reedham). There was no toll on exports.

The causes of conflict

The relationship between Norwich and Yarmouth varied between uneasy and acrimonious. Both sides exaggerated their case, but, in brief, Norwich thought that Yarmouth made excessive profits out of its position as the gateway to Norwich, and Yarmouth interpreted any comments by Norwich as an attack on its ancient rights. Yarmouth was also concerned that any diminution in the income would make it more difficult to maintain the harbour, with potentially catastrophic effects on the livelihood of the town's inhabitants. The mood is well shown by a Norwich historian, writing in 1869¹:

The history will show the grasping selfishness of the old corporation at Yarmouth, which always tried to tax the trade of the city, and opposed every improvement, even when it was for the benefit of both towns.

About half of the goods imported and exported from Yarmouth were thought by the Norwich lobby to be conveyed to or from Norwich.

In 1821, the costs incurred at Yarmouth for every chaldron of coal imported for Norwich were assessed² as:

Pierage – to maintain the harbour	1s. 6d
Town dues – retained by the Corporation of Great Yarmouth	8d
Metage – the duty for measuring the quantity	4d
Labour	<u>1s. 4d</u>
Total	<u>3s. 10d</u>

The town dues and metage were particularly resented. Another cause of contention was

that freemen of Yarmouth had a privilege of 6d a chaldron over other importers. As early as 1327 the City of Norwich had taken a legal action against the Borough of Great Yarmouth on the grounds that Norwich's charter given by King Henry II granted to the City 'all the tolls, rights and customs', and this predated Yarmouth's charter which was given by King John, which had granted the latter Borough the toll rights. In the action, Norwich pointed out that it was a sea port before Yarmouth even existed.³ Although Norwich won this case, later charters seem to have reinstated Yarmouth's rights.

A petition to Parliament in 1826 stated that town and other duties paid to the Corporation of Yarmouth on the Norwich trade in 1825 totalled £2,566.3s.3d, 'not one penny of which is repaid to Norwich'. In addition, pierage duty amounted to £5,774.3s.6d.

The labour costs were an inevitable result of the need to transfer the cargoes between the sea-going vessels and the wherries used between Norwich and Yarmouth. A less obvious complaint was the uncertainty of finding a suitable size ship onto which to transfer the cargo being exported and of finding other cargoes to make up a full load. The Yarmouth merchants would send their larger ships wherever the return was best, so goods from Norwich would have to wait. This was a special concern for those trading in perishable goods. Malt, particularly, suffered from excessive handling. It was also claimed that the uncertainties meant that the optimum prices were not being obtained for the principal exports, flour and grain. The principal import was coal, and similar considerations concerning the size of vessels applied. It was claimed that the large vessels rarely entered into this branch of carrying if any other means of employment could be found, which made the arrival of coal for Norwich erratic, which in turn sent the price up. No doubt it was hoped that if a ship navigation were made, Norwich entrepreneurs would start their own shipping firms.

Another problem perceived as a result of transshipment was pilfering. No one person could be held responsible for the safe arrival of the cargo. If the same vessel were to be used from Norwich to the ultimate destination, the cargo could be locked in the hold and the captain held responsible for its safety. In 1820, nineteen wherry-men had been committed to prison for robbing their cargoes. The counsel for the Norwich promoters of the Bill in 1826 stated that upwards of 2% of the value of cargoes was lost through extensive and systematic plunder.⁴

After Lowestoft had been chosen as the outlet for Norwich, much was made of allegations about the sand bar at Yarmouth, and how ships had to wait up to a fortnight to clear it. The arguments here were less convincing, as others claimed that Lowestoft suffered at least equally.

The early schemes

The driving force behind the proposals to make Norwich a port was Alderman Crisp Brown, a corn merchant, maltster and coal merchant. In 1814 he addressed an assembly of the Corporation of Norwich about the proposal, as a result of which William Cubitt, then principally known for his patent windmill sails rather than for civil engineering, was commissioned to investigate and report on how best the navigation to Norwich could be improved to accommodate vessels of up to 100 tons burthen, drawing up to eight feet of water.

Cubitt proposed⁵ making a new cut along the south side of Breydon and building an embankment across the narrow part of Burgh Flats (at the west end of Breydon), thus

confining the waters of the Rivers Yare and Waveney to the new cut. He felt that any attempt merely to dredge the channel through Breydon would result in it quickly silting up again. The alternative of embanking the channel through Breydon would help navigation but might be injurious to Yarmouth harbour because of the reduced effect of the ebb and flow of the tide.

From Burgh Flats up to Thorpe, he felt little or no work was required, except for removing a couple of slight shoals or taking off sharp bends. Above Thorpe the river would need to be deepened. Above Carrow Bridge it would need to be widened too, as some of the buildings in King Street close to the river had inadequate foundations, and also there would need to be room for vessels to lie when unloading and to turn. He estimated the costs as:

Land purchase – south of Breydon	£3,850
Excavating new cut and associated works	£10,254
Improvements to the rivers Yare and Wensum	£6,085
Two steam engines for dredging and towing, and 20 lighters	£7,500
Obtaining Act, supervision etc	£2,000
Contingencies at 20%	<u>£5,938</u>
Total	<u>£35,627</u>

The two steam engines would first be used for the works, then be employed towing ships between Norwich and Yarmouth 'in all winds and weathers'.

A public meeting was held on 8 September 1818 at which Alderman Crisp Brown reminded the audience of Cubitt's report. He concluded, 'Ought we then any longer to neglect the opportunity, which nature herself holds out to us, of benefiting our city and neighbourhood?' He suggested charging rates of 3d per quarter of corn, 2d per sack of flour, 6d per chaldron of coal and 1s per ton of goods; this would yield at least £4,100 a year, sufficient to meet interest at 5% and other expenses. To make a fair comparison, account should be taken of the difference in shipping rates through using larger vessels, and the costs of transshipment. As well as the benefits to merchants – 'and in all cases it will be admitted upon general principles that the savings of the merchant resolve themselves into the savings of the public' – he thought it would stimulate ship building, naval supplies and commerce generally. The only disadvantage he could see was to those employed on the wherries, and they would soon find new sources of employment.

The meeting approved the proposal to make the river to Norwich navigable by sea-going vessels, the slogan being 'Norwich a Port!', and appointed a Committee to consider the best way of carrying this into effect.

The first meeting of the Committee was held the following day. Cubitt attended and made two modifications to his previous proposal. The dam across the west end of Breydon would have sluices to allow river water into the lake when desired. He also proposed leaving Carrow Bridge as it was, and putting a cut alongside it (with a new bridge) leading to a harbour in the meadow to the east of the river.

Meanwhile, the Borough of Great Yarmouth had commissioned James Rennie to comment on Cubitt's proposals. Rennie wrote to the Mayor on 17 October, stating that there were two objectionable points affecting Yarmouth Harbour. Firstly, by closing off

Breydon from the rivers feeding it, he felt the sand, mud and silt brought in by the tide would settle, reducing the effectiveness of the scour when the tide went out. Perhaps he had discussed this with Cubitt, as the latter had already amended his advice at the meeting on 9 September. The second issue was the way in which the proposed cut entered the Harbour at the Knowl (Cobholm), directly opposite the mouth of the River Bure. Cubitt's proposal was for a pier to turn the current of the water flowing out of the new cut and also to scour away the shoal that existed. Rennie feared that this pier would intercept the current flowing into Breydon on the flood tide, thus lessening its flow.⁵

A meeting of the Navigation Committee on 5 November 1818 received James Rennie's objections, and Cubitt is noted as giving his comments. Although Cubitt had already acted on one point and the second was almost certainly capable of negotiation, the outcome was that Cubitt was asked to report on the alternative route of using Lowestoft as the outlet to the sea.

To the sea via Lowestoft?

Cubitt finished his lengthy report 20 months later, on 17 July 1820. He apologised for the delay, saying that the previous spring had been too wet to do all the surveys, and that since then he had had 'an almost constant succession of calls on professional business at a great distance from home', that is, from Ipswich.

He thought the country between Norwich and Lowestoft appeared 'very naturally formed for a navigable communication', proposing a straight 2½ mile cut between Reedham on the River Yare and a little above St Olave's Bridge on the River Waveney, enlarging Oulton Dyke, a lock at Mutford Bridge, some limited dredging of Lake Lothing, and a new cut, 500 yards long, between Lake Lothing and the sea, with an entrance lock. This meant that Lake Lothing would no longer drain into the River Waveney via Oulton Broad and Dyke, but instead would be linked to the sea.

Cubitt stated that the route between Norwich and Lowestoft was more direct than that to Yarmouth, and that it would be more favourable for winds for propelling the vessels. As noted in his previous report, little work would be needed to the River Yare between Whitlingham and Reedham, principally taking off a bend west of Surlingham Ferry and another by Surlingham Broad. He estimated that the soil excavated to create the cut between the Yare and the Waveney would be just sufficient to form the embankments, and that there would be no interference with drainage. Oulton Broad and Lake Lothing would be separated by a double lock with gates pointing each way, so that salt water could never extend beyond the causeway at Mutford, nor fresh water go out via Lowestoft.

Lake Lothing was a mile and a quarter long, with an average width from 270 to 290 yards, an area of 160 acres, and a depth of about 10 feet across much of the width for the whole length. The tidal range at Lowestoft being about 9 to 11 feet, the harbour would be some 15 to 17 feet deep every tide. The water could either be allowed to ebb and flow with the tide, or shut in then discharged at low water to scour the harbour and deepen the passage to the sea. The rush of water would have an initial speed of almost ten mile an hour, it was claimed.

Cubitt devoted a considerable part of his report to an assessment of the effects on the coastline, though whether he had the special expertise to do so was questionable, as until then he had been principally a mechanical and gas engineer. His view was that

between Cromer and Harwich, the sea for a few miles offshore was in effect a large river, with the coastline forming one bank and the chain of sandbanks forming 'the lower and invisible bank'. This was especially marked in the twenty miles between Winterton and Lowestoft, where the sandbanks were often dry at low tide, the only break being St Nicholas Gat, opposite Yarmouth. He asserted that the natural daily scour and deposit operated to try to fill up St Nicholas Gat, whereas it tended to deepen the water close to the shore at Lowestoft. Opening a passage from Lake Lothing would have no effect, as there would be 'no fresh water dribbling as it were into the sea, and assisting the waves to form a bank of silt at its mouth'.

His estimate of the cost of the works was £87,000:

Works at Norwich and along the River Yare	£15,745
New Cut across the marshes	£8,200
Swing bridge at Haddiscoe	£3,000
Deepening and widening Oulton Dyke	£4,000
Lock and bridge at Mutford	£8,500
Stop and flood gates and bridge at Lowestoft	£11,500
Cut from Lake Lothing to the sea	£5,000
Two short piers to obtain 12 feet at low water	£10,000
Extra works laying watercourses under the New Cut, and making embankment at the road near Mutford Bridge	£3,500
Purchase of engine and implements	£5,000
Contingencies	<u>£12,555</u>
Total	<u>£87,000</u>

Cubitt's report was not considered by the Committee until 29 August 1821, a further year later. The minutes contain no hint about the reason for the long delay. They agreed to pay his bill of £125.10s. 7d.

Crisp Brown presented an updated assessment of revenue. His main assumptions were that two-thirds of the traffic would prefer the new route, one-third continuing to use Yarmouth; and that the income would be equivalent to that currently being paid for pierage and town dues. The total annual income was estimated as £7,700, of which £800 was attributable to coal and goods going up the Waveney to Beccles and Bungay.

Yet another year passed before the next meeting of the Committee, when the prospectus for the Navigation Company was approved. More details were given about the annual revenue prospects:

Income	Tolls (calculated as before)	£7,700	
	Harbour of refuge and fishing station	<u>£450</u>	£8,150
Expenditure	Interest on £87,000 (at 5%)	£4,345	
	Casual expenses, wear & tear	<u>£1,800</u>	£6,145
Profit (in excess of interest at 5%)			<u>£2,005</u>

It was agreed to raise a capital of £100,000 in £100 shares, and 39 were subscribed for immediately, including ten by Colonel John Harvey, ten by Joseph Geldart, five by Crisp Brown and five by Messrs Bignold & Brightwell. At the next meeting the latter were appointed solicitors, together with Edmund Newton. A block of ten shares was bought by Whitbread & Co, brewers in London, to whom Crisp Brown supplied malt.

Presumably to forestall criticism, Thomas Telford, described as 'the Government Surveyor', was asked to report on the scheme. He commented that it was 'highly satisfactory', and estimated the cost as £95,760. The Committee was happy to pay his bill of £104.7s.0d.

As soon as this report was received, John Harvey sent a copy to Isaac Preston, the then Mayor of Great Yarmouth, requesting a conference. The latter replied promptly, stating:

The Magistrates of this town ... unanimous opinion that either of the measures proposed will meet the decided opposition of the Corporation and Town at large as being pregnant with the most ruinous consequences to the Navigation of their Port and the trading interests of the Town and Neighbourhood. Under these circumstances, they consider any meeting with your Committee could not be attended with beneficial results.

Harvey later commented⁸:

Not only was the conference refused but the gauntlet was thrown down and the literal meaning of Mr Preston's answer is, neither shall the Norwich people improve the present mode of Navigation, nor shall they have any other communication with the sea than by way of Yarmouth. Upon what principal of Equity, Justice or Right Yarmouth claims this dictation over Norwich I am at a loss to define. But having claimed the right and expressed a determination to act upon it, the inhabitants of Norwich had no alternative but to pursue the better plan of making Norwich a Port via Lowestoft. They were driven to it by Yarmouth.

Early in 1823 an anonymous letter was received, saying that £450 was an excessive forecast for income from using Lowestoft as a harbour of refuge and, more worryingly, alleging that Cubitt had not noticed that parallel with the shore at Lowestoft and stretching beyond Pakefield was a ridge of sand at some 100 or 150 yards from low water mark. Cubitt responded that he and Telford had considered the sand ridge and had taken evidence from pilots which satisfied them that there was nothing preventing 'a good and safe deep entrance'.

At a public meeting held in Norwich on 21 January 1823, the following resolution was passed:

...The declared intention to oppose this measure under any modification which it may receive, conveyed in the letter of the Mayor of Great Yarmouth, leaves the inhabitants of this City with no alternative but to pursue the plan of opening a harbour at Lowestoft.

An anonymous pamphlet⁹ titled *A Warning Voice* published on 14 February 1823 gave the Yarmouth point of view: a combination of genuine issues and scaremongering. Because most of the issues raised over the next four years through the press and Parliament were essentially the same, they are listed in some detail here:

- The Yarmouth assertion was that the problems of delay were greatly overstated,

goods frequently being delivered at Norwich within 48 hours of shipment at Newcastle, Hull and London.

- The high cost of coal at Norwich during the winter was the fault of the merchants of Norwich, who should have stockpiled in the summer.
- Steam tugs, as envisaged in Cubitt's report, could not cope, especially as winds tended to mean that ships arrived and left together.
- Taking ships upriver incurs extra costs, both for haulage by tugs and because the crew of a ship is five or six, whereas that of a wherry is one or two.
- Transshipment would still be necessary if the goods were to go above Foundry Bridge at Norwich – the navigable river goes on for a further 1½ miles up to New Mills.
- Wherries would be less likely to suffer pilfering, as the crews were smaller and they comprised local men.
- Vessels would be safer on the wider river than on the narrower cut. (Presumably this refers to the ease of handling if not being towed.)
- Yarmouth Haven was not deteriorating and had deepened by a foot over the previous twenty years, it was claimed.
- Lowestoft South Road (towards Pakefield) was 'one complete shoal'.
- Two short piers at Lowestoft 'would injure rather than assist to keep the New Cut open – eddies deposit sand.'
- If the sea came over the beach at Lowestoft it would sweep away the bridges and locks.
- Lake Lothing would ice up, trapping the ships.
- The marshes between the Waveney and the Yare would be put in jeopardy: 'utter and irremediable ruin would be the result'.
- Engineers usually underestimate costs – the pamphleteer cited Plymouth Breakwater, Ramsgate Pier and the Caledonian Canal.

The pamphleteer expressed moral outrage when discussing the allegations of plunder by the dockers and wherrymen. He said of Joseph Geldart: 'He plainly implies "Yarmouth people tell lies",' and went on, 'How the morals of watermen are to be improved by being thrown out of employ, and their property rendered useless, is not obvious'. However, one suspects he overstated his case when he asserted that the craft always delivered a greater number of chaldrons of coal than were measured into them at Yarmouth.

Having stated that over half of the carrying business would continue to go through Yarmouth and that a considerable part of the rest would return as soon as the disadvantages of the new route had been experienced, he predicted the effect on Great Yarmouth if the promoters were right in their forecasts:

Utter ruin to Yarmouth must be the natural and necessary consequence: the funds essential to keep the extensive and constantly deteriorating piers, could not be had off the small portion of trade that would remain to her; and many of her ships unsuitable to the New Cut, but eligible for the present harbour, would be almost useless; houses, warehouses, &c, deserted; and a large portion of the site of the town become, like ancient Tyre, a spot for fishermen to dry their nets on.

The Norwich interests later attempted to refute this by pointing out that the income from tolls had almost doubled since the Act under which the Commissioners operated was passed in 1801, so even if the latter's fears were justified, the income would merely revert to about the amount it had originally been. The Company's counsel went so far as to say to the Parliamentary Committee that the Commissioners had so much surplus money that they had frequently appropriated considerable sums to other objects in no way connected with the haven; Norwich manufacturers particularly resented tolls being used to pay for turtle and venison at Yarmouth Corporation festivities.¹⁰

The Norwich Committee held its last meeting on 17 September 1823.

Behind the scenes, efforts continued to raise support in Norwich and London. The decisive event was early in 1825 when Messrs Parkinson and Staff, London solicitors, took up the scheme and, through their connections, raised much of the money needed in just a few weeks. Presumably this was principally financial speculation. Their efforts apparently lead to much resentment in Norwich, causing A A H Beckwith and Alderman Hawkes, in particular, to canvass actively; they succeeded in adding £29,300 to the subscription list.

The first application to Parliament

At the initiative of the London party, and without, it seems, keeping the Norwich interests properly informed, the inaugural meeting of the Provisional Committee of the Norwich & Lowestoft Navigation Company was held at the Grays Inn Coffee House in London on 15 February, when the company prospectus was formally agreed. At the next meeting, eight days later, it was agreed that the maximum subscription should be £2,000 (twenty shares), but that no shareholder should be entitled to vote on more than ten shares. The qualification to be a director was set at five shares. This initial fundraising was highly successful, the subscription list totalling £76,500 by 11 March.

A delicate meeting with proprietors of land adjoining the Yare and Waveney was held on 13 May, the Company's aim being to allay worries, so that opposition in Parliament would be minimised. Captain Beauchamp Proctor, who chaired the meeting, expressed a number of concerns. He thought that Cubitt was mistaken, both as to the length of the cut through the beach at Lowestoft and to the depth and profile of Lake Lothing. He viewed 'the intention of cutting through the natural sea barrier as a very hazardous experiment'. His biggest worry was who would take responsibility if the estimate were exceeded and the works left half done.

Captain Proctor was obviously not satisfied with the responses. A couple of months later, styled as the Chairman of the Committee of Proprietors of Marsh Lands, he wrote to the Commissioners of the Haven & Piers of Great Yarmouth to seek their support. He felt the proposal would 'expose to injury tracts of land of great extent and value'.

Nevertheless, the Company's representatives must have been persuasive, because when the formal survey of owners and occupiers was done few adverse comments were recorded. Benjamin Barber of Raveningham said he 'would spend half the estate in opposing'. Charles Tompson of Norwich said he would never support it by any means whatsoever. Thomas Jay refused to be seen, though at home. John Plowman of Lowestoft was unhappy about the proposal, but did not oppose it, stating:

My inducement for purchasing my estate at Normanstone was for my own personal

pleasure of fishing and sailing on Lothing Water; the present measure if carried out will entirely destroy those objects, added to which I have laid out a very considerable sum in making fish ponds, planting etc on my land and the whole of which will be entirely under the level of high water mark consequently annihilate all my premises, but I give my assent under the impression of its importance to the City of Norwich and particularly in a mercantile view and the general public advantage that must result from it.

Only fourteen people signed the landowners' petition against the Bill; not all of these actually owned land affected. In the Parliamentary Committee, James Walker, the Haven & Piers Commissioners' engineer, concurred with William Cubitt and Thomas Telford that there was no risk to the marshes.

The Provisional Committee must have considered the public debate about Lowestoft Harbour to be exposing a potential weakness in their case. Edmund Newton, their Norwich solicitor, suggested employing a nautical expert. Thomas Telford recommended Captain George Nicholls, who had recently done similar work for the Gloucester & Sharpness Canal, for which Telford had assumed the role of engineer following foreclosure by the Exchequer Bill Loan Commissioners in 1821.¹¹ Telford himself declined to act for the Company, on the grounds that he had recently been asked by Yarmouth to report on the implications of straightening the river near the Harbour's Mouth.¹²

Captain Nicholls carried out inspections with Cubitt and gave a reassuring report to the Committee's meeting on 30 July 1825. If Lake Lothing were merely connected to the sea, a sand bar would accumulate at the entrance, blocking it within a few years. The proposal to have a lock and to use the pent up water to scour the channel would be effective, he thought; it would remove accumulated sand and shingle but not cause a bank to be built up. It was not intended to build piers; instead there would be protecting abutments, sloping at the same angle as the beach currently did. Thus there would be no eddying or interference with the sweep of the tide. There was no danger between the place of the intended cut and the range of sand banks which skirted the coast. Because the embankment at Mutford Bridge was to be raised by four feet and a lock built, Oulton Broad and all the inland area would be totally unaffected.

It was agreed to engage Mr Disley, a Trinity House pilot, to consider the passage through the sand banks. His view was that the channel to the north of Lowestoft was very good, but the one to the south-east, through the Stanford Channel, was narrow and often dangerous. However, there was another opening more than two miles wide over the narrow ridge of sand, though currently little used. He thought it was 'perfectly safe for vessels of a moderate draught', and advised placing a buoy on each side.

On 30 August the Great Yarmouth Haven & Piers Commissioners considered Captain Proctor's letter about the possibility of marsh lands being flooded; indeed, this is the first time their minutes mention the scheme. Three of the twelve Commissioners were appointed by the City of Norwich, which must have made for some difficult meetings. However, on this occasion only one attended, John Brown, and he had always been opposed to the project. The Commissioners' concern was that if the scheme were successful, the income available for maintenance would be materially reduced. They therefore formally resolved 'most strenuously to resist the making of a new harbour near Lowestoft and to oppose any Bill that may be brought into Parliament'. As a conciliatory gesture, they stated they were 'desirous to make every improvement in the present Navigation and to attend any suggestions that may lead to the extension of the

advantages now derived from it'.

A week later the Committee considered the Commissioners' reply. The minutes do not record any discussion about its positive aspects; instead it was resolved that application be made to Parliament – this had to be done by 30 November, if the Bill were to be dealt with in that session. Perhaps they felt the Commissioners were not being sincere or were using a delaying tactic so that the 1826 session of Parliament would be missed.

A further week later, the Committee considered an offer from Edmond Wodehouse, a county MP and a Haven & Piers Commissioner nominated by Norfolk, to 'effect an amicable cooperation with the Borough of Great Yarmouth'. The exchange of correspondence with the Mayor of Yarmouth in December 1822 was read again, and the Committee thanked Mr Wodehouse but stated that they 'were unanimously of the opinion that they could not make any proposal with a view to such an arrangement'. In October 1825, Mr Wodehouse proposed that Sir Edmund Lacon, Isaac Preston and Mr Barth, on the part of Yarmouth, should meet with John Harvey, Crisp Brown and Joseph Geldart, on the part of Norwich, and with Col Petre, Thomas Cubitt and Mr Burroughes on the part of the Commissioners; however, it was said that the Yarmouth party declined. In March 1826 Mr Wodehouse made another attempt, when the parties were in London, but the Mayor of Yarmouth was said to have 'put a complete negative on it'.¹³ Even as late as April 1826, Wodehouse was still trying to reconcile the differences, without success, and he presented a petition to that effect to the Parliamentary Committee considering the Bill.

In November the Committee decided to seek counsel's opinion concerning whether the Yarmouth Haven & Piers Commissioners were legally able to use their funds opposing the Bill. They received the reply they hoped for: that the Commissioners' powers were specific and that to use funds for opposing the Bill would be to misapply them. Counsel advised writing to the Commissioners to point this out, so that they could not later plead it was a 'mistake'. The Commissioners did not challenge this opinion; instead they reiterated their intention to oppose the Bill, and the Corporation of Great Yarmouth agreed to indemnify all their expenses in doing so. One of Norwich's three Commissioners, Henry Francis, voted against this, but John Brown and A A H Beckwith, Speaker of the Common Council of Norwich, voted in favour.

A press report explained Beckwith's action by recalling that he had been one of the original subscribers in the Navigation Company and a committee member, but had been frustrated in his wish to be one of the solicitors to the Bill. Since being turned down, he had withdrawn from the Committee. Beckwith protested that, as a Commissioner, he had to act in the interests of the organisation to which he had been appointed and not merely look to the interests of Norwich only; in any case, he now thought that the interests of Norwich would be best served by a navigation through Yarmouth. However, as an individual, he had never opposed the Bill. A further acrimonious exchange took place, the Norwich Mercury publishing a 3,500 word letter from him justifying his actions, saying that he had not been proposed as a solicitor but that the Committee had indicated that they would be inclined to appoint him as Secretary once the Bill had been obtained. A letter from Col John Harvey stated that some of Beckwith's friends had wanted him appointed as a solicitor for the Bill; although the proposal was discussed, it was never put to the vote.

The Committee should have been worried when one of their number, Jeremiah Ives, resigned. He cited opposition by land-owners, opposition 'by persons even in Lowestoft', and the risk of an enormous expense being incurred to no purpose. He advised instead

seeking the support of the owners of land at Haddiscoe to improve the navigation through Yarmouth.

Attempts to get the support of local MPs met with mixed success. William Smith, a Norwich MP, responded: 'It entirely meets my ideas of what both the City and the County want and have a right to and I can scarcely think that Yarmouth will have sufficient interest to defeat the attempt.' On the other hand, William Coke, one of the Norfolk MPs, replied warily: 'I will readily attend the Committee, but as to pledging myself to support a measure that may be disapproved and opposed by a considerable body of my constituents is what I am confident neither you or any of my friends will require of me.'

James Walker had been appointed engineer to the Commissioners, and his report¹⁴ on the scheme was forwarded to the Committee. Not surprisingly, it said:

The most reasonable as well as the most economical way is as Mr Telford has stated, to improve the present navigation by the way of Yarmouth. To divide the trade... would have the effect of lessening the revenue; and this... would tend to the ruin of the certainly very important national harbour of Yarmouth, a consequence which even the increased facilities to the commerce of the interior would by no means justify.

He thought that it would not be possible to maintain the required depth between the sea and Lake Lothing, and that ships would not be able to enter during the most dangerous winds, particularly as the drawings showed the entrance pointing north-east. (Cubitt must have taken account of this criticism, as the later plans show it facing east.) Walker considered that the need to keep the bridge shut, particularly during the night, was a serious objection. He was not critical of the estimate, particularly as Telford had confirmed it. He concluded: 'Yarmouth has I am sure nothing to fear from Lowestoft... but I hope that both parties will see that their real interests are so identical as to render even this expensive experiment unnecessary.'

February, March and April were much occupied with Parliamentary matters, first organising petitions in support – 4,600 Norwich citizens signing one petition – then giving evidence.¹⁵

The principal witness for the commercial need for the proposal was Crisp Brown. He emphasised the delays caused by Yarmouth bar, the problems of transshipment, and the issue of pilfering. Henry Barrett, a merchant of Great Yarmouth who said he had been the author of the anonymous pamphlet, *A Warning Voice* published in February 1823, discussed the extra costs from using sea-going ships up to Norwich; he also said that pilfering could be avoided by locking the hatches and sending the key by coach. (Barrett owned one share in the Company, possibly so that the Yarmouth interests would be entitled to attend General Meetings and to be kept informed about what was happening.) Mr Harmer, wharfinger and agent at Norwich, said that he did a good third of the business between Norwich and London. He thought the delays caused by Yarmouth bar had been much exaggerated. He had never come across pilferage by crews, but added there was 'a set of thieves upon the wharfs'. John Bracey, Yarmouth's Harbour Master, saw no future for steam tugs: 'They would track them up by those steam-boats while they last, but they are going out.'

William Cubitt was cross-examined at length on the engineering aspects. He explained that the sea lock was to be 32 feet wide and 120 feet long, accommodating vessels of nearly 400 tons burthen. People would be stationed day and night at the swing bridge,

and if it were not open, vessels would moor in the entrance cut. He intended to wharf the south side of the cut with timber and extra piling. From the edge of the shore there would be a pier, solid up to low water mark and an open jetty above that, which should avoid an eddy being created. Alexander Nimmo, an experienced harbour engineer who had been brought in by the Company to strengthen their evidence, was of the opinion that Cubitt's proposals would work well. Although there was no similar construction in Britain, the method had been used in Holland. Thomas Telford too supported Cubitt's plans, and commented on the great scouring power of Lake Lothing. 'That a fine lake of 160 acres should be found within 400 yards of the sea is a circumstance which occurs nowhere besides in England.' Concerning the estimates, he said that he had experience from elsewhere of similar works costing less money.

Cubitt was cross-examined by Vice Admiral Sir George Cockburn, a Junior Lord of the Admiralty, who was interested in the possibility of Lowestoft becoming a naval station. Cubitt thought that it would cost no more than £2,500 to make it suitable. Captain George Thomas, the master of the Admiralty's survey brig *Investigator*, stated that the new channel between the sandbanks was perfectly accessible for vessels coming from the south, and he declared that there would be no difficulty in making Lake Lothing a safe and sufficient harbour for frigates of war. The Norwich party was much heartened by these positive developments, which seem to have come as a surprise.

James Walker considered that it was possible to make a harbour at Lowestoft, but the cost would be far more than Cubitt and Telford estimated. (He had obviously had second thoughts since his report earlier in the year.) Excluding the works west of Reedham, he put the cost as £212,630, based on the actual cost incurred on works at Yarmouth. He also thought the scouring power would be only about an eighth of that which Cubitt and Telford believed, so there would be additional expense in keeping the harbour mouth clear. Various pilots and ship-owners of Yarmouth gave evidence about how the sands made Lowestoft an unsuitable place for a harbour.

Captain George Manby, the Barrack-Master at Yarmouth and the inventor of the rescue mortar, was highly critical of the proposal, saying it would be dangerous to try to enter such a harbour during a storm, the open sea being safer. He added that the local beachmen were of the same opinion – that it would increase shipwrecks and give them plenty of work.

Representatives of the owners of the marshlands expressed their concern about the works being left partly completed, leading to flooding. Counsel for the Navigation asked whether they would be satisfied with a clause which required Mutford embankment and lock to be completed before any other works were done, but the landowners refused to accede.

When the Parliamentary Committee voted after hearing all the evidence, 20 were in favour and 25 against. The Norwich Mercury alleged that some people who had voted had heard neither the evidence nor the counsels' summing up. The newspaper put much of the blame on Edmond Wodehouse, stating that he had been 'most active in the frustration of the plan.'

There were public criticisms of the costs incurred by the Provisional Committee, so, following the failure of the Bill, they arranged for accounts to be drawn up and audited. These showed that the cost of Parliamentary, legal, engineering, survey and other expenses had totalled £9,100.

The second application to Parliament

At their meeting on 4 July 1826, the Great Yarmouth Haven & Pier Commissioners made a conciliatory gesture, resolving:

The Commissioners... regret that a resolution passed by them on the 30th August 1825 (a copy of which was sent to the Committee of the Norwich Joint Stock Company) should not have led to a Communication, the result of which they have no doubt would have been an amicable arrangement between all parties, by which means much expense already incurred might have been avoided.

The Commissioners alike anxious to promote the interests of the City of Norwich as to protect those of the town of Yarmouth and the County over which they have Jurisdiction and desirous to extend the convenience and advantages of the present Navigation, by making every improvement in their power, so as to render it practicable for Sea borne vessels, would once more suggest to the Committee of the Joint Stock Company the propriety of attending to the recommendation not only of Mr Walker [19 January 1826] but to that of Mr Telford [12 December 1822].

The Provisional Committee of the Navigation agreed to send a deputation of four to confer with the Commissioners as early as convenient. It was also decided to put forward the following propositions:

- 'That Norwich be made a port, of which purpose the navigation between that City and the sea through Great Yarmouth shall be improved as to admit vessels drawing ten feet water.'
- 'That the route to be pursued and the mode to be adopted for effecting this object to be submitted to the consideration of Mr Cubitt on the part of Norwich and of a civil engineer to be named by the Commissioners.'
- That an Act of Parliament be applied for, specifying new maximum tolls, an increase in the number of Norwich Commissioners from three to six, extra borrowing powers, and the expenses incurred by the Provisional Committee of the Norwich & Lowestoft Navigation Company to be defrayed out of tolls.

The Commissioners met the deputation on 8 August but said they needed to consult their constituents before giving any response to the propositions. At this meeting it was also decided to ask James Walker to do a survey on the practicality of making Breydon navigable for vessels drawing ten feet of water, and also to report on the effect of making a lateral cut from Burgh Flats alongside Breydon to above the Haven Bridge at Yarmouth (that is, on William Cubitt's original proposal).

He reported back at their next meeting on 5 September. He had found that the current took two channels at the western end of Breydon and these combined into one much deeper channel about half way along the lake. The present depth of the navigable channel at the western end was only four to five feet across the necessary width at low water; to increase that to 10ft 6in across a 100ft wide channel would require removing some 300,000 cubic yards of material, costing about £9,000 and taking two or three years to complete. To retain that depth it would be necessary to turn the current by building a projection formed of the excavated material fronted with gravel, flint or piling, and planting. He emphasised that care must be taken to diminish as little as possible the area of Breydon, upon which the scour of the harbour and the bar so much depended. It would still probably be necessary to do a little dredging. He concluded, 'Breydon may be

made navigable for vessels drawing ten feet water.' He did not deal with the effects of a lateral cut in his written report.¹⁶

At the same meeting, the Commissioners considered Norwich's propositions. Thomas Cubitt proposed and John Petre seconded (both being Norfolk Commissioners) that the propositions be rejected. This was carried, despite two of the Norwich Commissioners, Crisp Brown and A A H Beckwith formally recording their protest 'against the rejection of all the propositions'. However, the Commissioners reiterated their desire that Norwich should be made a port via Yarmouth, and said that they would apply to Parliament if Norwich agreed to the expense being met by a duty on corn, goods and merchandise exported from or imported to the interior in sea-borne vessels.

The Provisional Committee (including Crisp Brown) met a week later, and noted that they had not yet received an answer from the Commissioners. They therefore resolved to write to enquire whether the meeting on 5 September had taken place – though Crisp Brown had been at that meeting and no doubt related the outcome.

By a further week later they had received the formal reply from the Commissioners and had also obtained a copy of the minutes of a meeting of the Norfolk Magistrates, which stated: 'Though the Propositions were thought to be objectionable, they are willing to concur in an immediate application to Parliament for effecting an improved navigation between Norwich and Yarmouth upon a fair and equitable consideration of the various interests concerned.' In particular, the Norfolk Magistrates thought there was no justification for putting a duty on all exports through Yarmouth, only on those in sea-going vessels; also the Norwich & Lowestoft Navigation's expenses incurred must not be repaid as that would bring no benefits – indeed, it would become a cost to many people who had themselves incurred costs in *opposing* the Bill.

The Committee seemed to be strongly influenced by the formal rejection of all their propositions and made no attempt to negotiate a compromise, despite the Commissioners' acceptance of the principle of making Norwich accessible to sea-going vessels, which was the Norwich party's original objective; indeed, it was the first of the propositions. The justification given for asking for reimbursement of all the expenses incurred to date was that if it had not been for Yarmouth's intransigence, these expenses would not have been incurred.

The Provisional Committee pressed ahead and again applied to Parliament. The Corporation of Great Yarmouth called a public meeting which resolved:

That the projected plan if carried into effect will be a great invasion of the Public Rights of this Ancient Town, and most detrimental to every department of her trade and commerce, diminishing alike her prosperity and importance without effecting any national or public advantage.

A copy of this resolution was sent to the Committee with a covering letter from the Town Clerk of Great Yarmouth referring to 'this obnoxious Bill' and 'this renewed attempt to carry a measure so hostile to the prosperity and long-established rights of this commercial and populous town'. The only effect was to make the Norwich interests even more determined.

The Committee was concerned about the challenges to the cost of the project, and decided to ask Thomas Baylis to survey the proposed route through Lowestoft and to estimate the expense of making the works. Baylis, it was said, had been 'engaged in

works of a similar but more extensive nature, particularly the Gloucester & Berkeley Ship Canal'.¹⁷ He inspected the route with William Cubitt, then undertook to execute the works for the sum of £75,011.¹⁸ In summary, analysed in as similar a way as possible to Cubitt's 1820 estimate, the amount was made up as follows:

Works at Norwich and along the River Yare	£4,744
New Cut across the marshes	£8,150
Swing bridge at Haddiscoe	£1,800
Culverts under New Cut	£400
Deepening and widening Oulton Dyke	£4,000
Lock and Bridge at Mutford	£10,000
Deepening Lake Lothing	£4,042
Cut from Lake Lothing to the sea	£4,650
Sea lock, sluice gate and bridge at Lowestoft	£12,500
'Wharfing and Jetty to the Sea'	<u>£24,725</u>
Total of Baylis's tender	£75,011
Additional items as now estimated by Cubitt: ¹⁹	
Land	£3,800
Dredging engines	£7,500
Making new road and compensation	£1,500
Preparatory matters	<u>£10,000</u>
	<u>£23,800</u>
Total cost	<u>£98,811</u>

The proposal to cut off two of the bends in the River Yare appears to have been dropped. Baylis gave a revised estimate in February 1827; his total had increased to £75,675, with some small differences in the individual figures.²⁰

A letter seeking support was sent to the Admiralty on 27 December, and the reply was dated 29 December:

Their Lordships will give the measure every support in their power with a view to the general benefit of Navigation on that Coast, but that they do not contemplate any advantage to accrue from it to the Vessels of War on the North Sea station with the exception perhaps to Government Steam Boats or other small vessels.

The Prospectus, agreed a couple of weeks later, misrepresented the Admiralty's views:

It is gratifying as well as encouraging to be able to state that the Lords of the Admiralty have been pleased officially to express their approbation of the Place and intention to give it every support in their power. It is scarcely necessary to add that its employment as a Naval Station cannot fail adding materially to the permanent benefits that may be expected to result from the speculation.

The Prospectus changed the emphasis in the objects of the scheme. Improved navigation to the sea from Norwich was coupled with similar benefits for Beccles and

Bungay; and the creation of a 'safe and capacious harbour of refuge' was made a main objective. The other reasons were much as before. The cost was given as £100,000 plus £10,000 for contingencies. A forecast was given of annual costs and revenues:

To interest of £110,000 at 5%	£5,500	By 300,000 quarters of corn,	
Management salaries	£1,000	malt etc at 3d	£3,750
Repairs	£1,500	60,000 chaldrons of coal at 2/-	£6,000
		25,000 tons of merchandise at 2/-	£2,500
		50,000 sacks of flour at 2d	£416
		Profits of the Harbour as a	
		fishing station only	£334
Balance in favour of the concern		But as a Harbour of Refuge at	
above the interest at 5%	<u>£6,000</u>	the lowest rate supposed to be	<u>£1,000</u>
	<u>£14,000</u>		<u>£14,000</u>

Lowestoft had a population of only 3,700 at the census of 1821, a sixth of that of Great Yarmouth. The Navigation Company does not appear to have made any attempt to involve the citizens of Lowestoft in the project, their first mention in the minutes being when a letter was received from 'the merchants and fish curers' requesting a meeting. They were concerned about what harbour dues they might have to pay; the navigation representatives asked them what they were willing to pay, but they replied that they were not authorised to make a proposition. The Company proposed 20 shillings per vessel per year, plus five shillings for every entry into the harbour laden with fish. Their reaction is not recorded but if they were dissatisfied they would have the alternative of continuing to launch their boats off the beach.

Of greater concern was the fact that a few of the 1826 shareholders had withdrawn, some after the second reading in the House of Commons, and other had not signed a deed. Most influential of those withdrawing was another Norwich solicitor, Alderman Hawkes, who, with A A H Beckwith, had been largely instrumental in getting the necessary subscribers to the scheme only a year and a half earlier. Hawkes and his partner, William Unthank, circulated subscribers trying to get them to petition against the Bill. Parliamentary Standing Orders required 80% of the cost to be subscribed under a binding agreement. Mr Parkinson, one of the solicitors for the Bill, made personal visits to achieve this, and by early April deeds to the value of £80,200 had been signed. Counsel's opinion was sought as to the validity of deeds signed before the failure of the 1826 Bill. The Attorney General and the Solicitor General considered that as the minute of the General Meeting in October 1826 which had agreed to go ahead with a further application to Parliament had been widely advertised, previous shareholders had had a good opportunity to withdraw; the deeds therefore now formed binding contracts.

The list of subscribers submitted to Parliament shows that of the 800 shares, John Harvey and William Chase held 20, Edward Booth and R Beck held 15, and 17 shareholders had 10. It is notable that Crisp Brown was not a subscriber, possibly because his financial problems were beginning to be pressing. (He was declared bankrupt in 1829.) The origins of the subscribers were:

	Shares	%
Norwich and surrounding area	482	60
Great Yarmouth (Henry Barrett and Henry Bolingbroke)	2	0
Other Norfolk	5	1
Lowestoft	30	4
Other Suffolk	10	1
London (some of whom are known to have Norwich connections)	238	30
Wisbech, Bury St Edmunds, Leicester, Tunbridge Wells & Leeds	<u>33</u>	<u>4</u>
	800	100

It is evident that the political processes were generally managed better in 1827 than they had been the previous year. Good use was made of the two Members of Parliament for Norwich. One was Jonathan Peel, younger brother of Robert Peel, then Home Secretary. (Both the Peels had been given the freedom of the City in June 1826.) Jonathan Peel discussed the project with HRH the Duke of Clarence, then Lord High Admiral and three years later to become King William IV, who said he would be pleased to give the Bill his sanction and support because of the public benefit from the creation of the harbour of refuge. Private discussions were held with Lord Wharnccliffe, the Chairman of the House of Lords' Committee, and with Trinity House.

On 26 January 1827, following several days of stormy east winds, many vessels were broken adrift and driven on shore. In the Lowestoft area 13 vessels were stranded; further north in Yarmouth Roads, 130 vessels were driven from their convoy. The Norwich Mercury reported that there had been sufficient time for all the vessels to have escaped in safety if Lowestoft Harbour had been made: 'All would have rode out the storm in perfect safety within 500 yards of the ocean.'

The proceedings of Parliament were simplified, as upon the motion of William Smith (one of the MPs for Norwich), leave had been given to receive the evidence given the previous year. The Norwich Mercury tended to give prominence to the supporters of the Bill, but for two consecutive weeks it carried a long advertisement which gave a totally different impression of events. For example:

COALS – Solving the Mystery of Higher Prices of Coals at Norwich

Mr Alderman Crisp Brown cross-examined by Mr Andrews:

Coals are 32 shillings a chaldron at Yarmouth.

Q: 'Who profits by the increase in price between Yarmouth and Norwich, the merchant, or is there any middle man?'

A: 'The merchant is the middle man.'

Q: 'Does he get the increase?'

A: 'He has a profit on it no doubt.'

Q: 'Does he get the whole profit?'

A: 'Yes.'

This enormous profit, with a large increase of measure, is pocketed by Mr Alderman Crisp Brown, who is the middleman, and who buys coal on *certain* terms at Yarmouth.

Of more relevance in the long run were differences in the estimates of costs. The anonymous advertiser pointed out that previously Mr Cubitt had stated that a pier would not be needed but now he admitted the necessity of one, 200 yards long and 15 feet clear width at the top. Nevertheless, his estimated cost of the whole works had not increased. Mr Walker's estimate was now £259,000. Hugh McIntosh, 'contractor for various government works and Shoreham Harbour, Milford Haven etc' estimated it at just under £159,427, saying, 'I would not engage the work at less sum.' (The advertiser did not point out that McIntosh was the contractor for the Gloucester & Sharpness Canal, from which Baylis was claiming his expertise.)

Nevertheless, on 10 March the House of Commons Committee approved the Bill by 20 votes to 5. The Norwich Mercury reported:

Crisp Brown... was... met on the road by a body of his fellow citizens, who insisted upon his entering a landau they had taken to meet him, and at the moment we write, the populace have drawn him round the Market, and are now escorting him to his residence, where the Mayor and Corporation and his friends are, we understand, assembled to receive him.

The war of words with Yarmouth in the letter columns of the press now hotted up. A typical contribution was this letter from someone who ironically described himself as 'A ruined shareholder':

Who after this will dare to accuse Yarmouth of looking too much to self? A more kind-hearted disinterested race of men does not exist on the face of the globe. It now plainly appears that all the expense, trouble and anxiety of their opposition to the Norwich Port Bill was undertaken, not for their private ends, but out of pure kindness to the shareholders and to keep them from ruin. Admirable, generous opponents!

Another unsigned letter attacked Crisp Brown, and there was an element of truth in his accusation:

It is of the greatest importance to you, sir, that this bill should be obtained, as it would thereby considerably enhance the value of *your* property in King Street, Carrow Bridge and near Lake Lothing by the entrance from the sea. ... The shareholders have therefore only to petition the House of Lords that the bill may not pass, and they need not fear the result. They now have that opportunity – once lost, it is never to be reclaimed.

The first day of the House of Lords Committee, 7 May 1827, was mainly devoted to ensuring Standing Orders had been complied with. The following day was devoted to William Cubitt's evidence. He was cross-examined at length about the way he did his estimates. Counsel seemed surprised that there were no detailed plans; Cubitt responded, 'I never make any specification of the works in detail until they are ready to be put out.' Instead, he calculated quantities and estimated prices. Later he said that he did have plans of some structures, ready for work he was to perform subsequently. He stated that he had shown these to Mr Telford, Mr Nimmo and Mr Baylis. Counsel asked him whether he had any objection to providing them, to which Cubitt said, 'I always have an objection in as much as I do not believe it customary to produce such plans in detail

before the Committee.'

One issue on which Cubitt was cross-examined which throws a light on later problems was the choice of wood for the piers. When asked whether it would be constructed as expensively as that at Yarmouth, he replied it would not. A significant part of the difference was the use of fir rather than oak, the latter costing at least three times as much. When asked how long fir would last compared to oak, Cubitt said, 'I really do not know the precise duration.' However, it was his opinion that the work would perform well made of fir; he did not think to use oak would be a waste, but a fir pier would do as well and be cheaper. He was then asked, 'Will it not require a certain annual expenditure to keep it up,' to which he replied, 'Of course it would require some, but much would depend on its form and construction.'²¹

This time the Bill was passed by both Houses of Parliament. The Navigation Committee with the Mayor, their Chairman, was met on Hartford Hill on their return from London by thousands of Norwich citizens. A grand procession was made through the city, with guns firing, and that evening there was a bonfire celebration.²²

Royal Assent was given on 28 May 1827. The Act had cost £14,753 to obtain, which caused concern in some quarters. The Provisional Committee thought that the money had been 'regulated with a due regard to discretion and economy', ascribing the high cost to the many years of preparation, the number and abilities of the people engaged to make and check the plans and estimates, and the degree of active opposition. (The Town Clerk of the Borough of Great Yarmouth later confirmed that Yarmouth had spent £8,090 in opposing the Bills.²³) Their report to the General Meeting on 3 July concluded: 'Your Committee... feel confident that the expense of the works will not exceed the Estimates which have been given by the Engineers employed but that able Contractors may be found to execute them with credit on their part and security to the Company.'

Notes and references

The principal sources used have been:

- Norfolk Record Office (NRO), case 19d: Norwich Corporation, Norwich Navigation Committee, minutes, 1818–23
- NRO, case 19d: Provisional Committee of the Norwich & Lowestoft Navigation Company, minutes, 1825–27
- NRO, Y/PH1 & 2: Commissioners of the Great Yarmouth Haven & Piers, minutes, 1824–27
- *Norwich Mercury*, 1826–27

My thanks to David Cubitt for identifying the relevant articles in the *Norwich Mercury* and to Derek & Mary Manning for information about Norwich.

1. Bayne, A D, *A Comprehensive History of Norwich*, Jarrold & Sons, Norwich, 1868, p357.
2. NRO, case 19d: Norwich Navigation Committee, minutes, 17 September 1821
3. Blomefield, F, *A Topographical History of the County of Norfolk*, volume 3, folio edition, Miller, London, 1806, p82.
4. *Norwich Mercury*, 15 April 1826

5. Institution of Civil Engineers (ICE) archives: Report of William Cubitt, 18 June 1814
6. Rennie, J, *Reports*, Vol 10, folio 16, ICE archives.
7. Suffolk Record Office, Lowestoft Branch (SRO, LB), EA 386.855 (P): Second Report of Mr William Cubitt, 17 July 1820, and Prospectus.
8. NRO, Case 19d: Provisional Committee of the Norwich & Lowestoft Navigation Company, minutes, 6 December 1826
9. Anonymous [Barrett, H], *A Warning Voice to the Projectors, Subscribers, & Supporters of the Plan for Making Norwich a Port, Yarmouth*, 14 February 1823, NRO, Y/PH1150.
10. *Norwich Mercury*, 15 April 1826.
11. Captain Nicholls had been appointed salaried chairman of the Gloucester & Sharpness Canal Company, possibly at Telford's request.
12. Cubitt, who was even more closely involved than Telford in the Lowestoft project, was at that time advising the Great Yarmouth Haven & Piers Commissioners about a dredging engine powered by steam.
13. *Norwich Mercury*, 15 April 1826
14. Walker, J, *Report on the plan for making a ship navigation from the sea at Lowestoft to Norwich*, SRO, LB, EA381.22
15. *Abstract of the Minutes of Evidence to the House of Commons 1826*, privately published, Great Yarmouth Library
16. Walker, J, *Report on the practicality of making Breydon navigable*, NRO, Y/PH106
17. The 'Gloucester & Berkeley Ship Canal' was the legal title of the company, the western terminal being altered to Sharpness in 1816. Baylis could not have been the principal contractor, as from 1822 that was Hugh McIntosh.
18. Minutes of the Provisional Committee of the Norwich & Lowestoft Navigation Company, 5 October 1826, NRO, Case 19d.
19. The figures given in the minutes and reproduced here add up to £1,000 less than the total stated. It is not possible to identify which figure is incorrect or whether a heading has been omitted.
20. NRO, MS1244: Estimate by Thomas Baylis, 12 February 1827.
21. House of Lords Record Office, 6/E/5-7: Norwich & Lowestoft Navigation Bill, Minutes of Evidence 1827.
22. Bayne, A D, *A Comprehensive History of Norwich*, Jarrold & Sons, Norwich, 1868, p362.
23. Hume, J, *Report on Lowestoft Harbour*, April 1846, SRO, LB, 267.

Joint Passenger Stations

BY STEPHEN BRAGG

The genesis of this note was a paper circulated in the Newsletter of the Chronology Group of the Society in February 1999. The author had used the Railway Clearing House (RCH) Handbook of Stations, the RCH book of Official Railway Junctions Diagrams and sundry other general sources, as well as works on particular railways, to produce a draft list of all the joint passenger stations in Great Britain. The paper elicited comments from A W Brackenbury, Col M H Cobb, M G Fitton, Dr J V Gough, G A Jacobs, P Kay, S Maclean, P J McCarthy, P Rowledge, M Searle, G B Skelsey, A R Warren and B L Wilson. It was pointed out that the RCH Handbook and diagrams were intended to show which companies were responsible for traffic and the mileages on which charges should be based: they were not reliable guides to questions of ownership. Indeed the comments showed that the subject was so complicated – as evidenced, for example by C R Clinker's article on Hereford in the 1982 Journal – that it would probably be necessary to examine every local working agreement to substantiate each claim for joint status. Nevertheless it is thought worthwhile to publish an interim list, incorporating the comments already made, in the hope that other members could help to confirm, expand or eliminate any of the entries.

There was general agreement that a strict definition of a joint station was one that was jointly owned. That is, two or more companies contributed to the capital cost and shared the expense of maintaining and running the station. This excluded those cases where a second company rented part of a station belonging to another. It also excluded all cases where the trains of one company served a station belonging to another, reached under running powers.

Stations on the longer sections of jointly worked lines, such as the S&KJt, constitute an unambiguous category of joint stations, which will not be considered here any further. It includes major joint stations like Chester General, Hereford Barr's Court, Preston Fishergate and Shrewsbury General as well as many smaller stations like, say, Heswall (B'headJt). However, stations on the three independent joint lines – CLC, M&GN and S&DJt – are considered as being owned by single companies, even if those companies were themselves owned by more than one other railway: they do not therefore count as joint stations. Fishguard harbour, jointly owned by the GW and the GS&W through their ownership of the Fishguard & Rosslare Rlys & Harbours Co, seems to be a borderline case.

It was possible for one of the companies to own the land on which a joint station was built: that company would then be responsible for paying the rates, although the cost of these were shared. This was likely where the joint station was situated on the line of one of the companies – Knottingley is an example. Apparently Colne was on Midland land, though in other cases of end-on junctions, like Ashbourne, Chard and Aberdeen, the lines of the two companies were separated by a section of jointly owned track, presumably on jointly owned land. In all cases, however, to qualify for joint status the costs and therefore the ownership of the buildings must have been shared.

A joint station might be staffed and managed on a day-to-day basis by one company on behalf of the others, with a joint committee deciding policy. In other cases, such as at Carlisle, the staff were employed by the joint committee.

The stations (other than those on the longer joint lines) about whose joint status in 1922 there appears to be general agreement are listed in Table 1. They fall into four main categories:

- a) stations like Ashbourne, on 'short' sections of jointly owned track – that is, sections on which they were the only station;
- b) stations like Wrexham Central, at or close to end-on junctions between the lines of two companies. It is not always clear, certainly from the RCH diagrams, exactly where the boundaries of land ownership lay;
- c) stations like Carnforth, built and managed at joint expense, even though each company used different platforms (at other joint stations all the platforms were usually available to all the owning companies);
- d) stations like Normanton, on the line of one company but jointly owned and either jointly managed or managed by one company on behalf of all users.

There were a number of other stations which looked at first sight as if they might have been jointly owned but were probably not. Some of them were sited at or near junctions where each company built, maintained and staffed its own section of what many, including the OS mapmakers, would regard as a single station. One might call these 'divided' stations, taking Penistone as a typical example. In other cases the sections were regarded as two separate stations, although they might have been managed as a single unit for reasons of economy or one company might have provided some services for the other. These divided and double stations do not seem to qualify for joint status. They are listed in Table 2.

Further information on the local arrangements for working all the stations in both tables, and any others that might be considered joint, would be welcome. In particular one would like to know in every case:

- which company or companies owned the freehold;
- which owned and maintained the buildings;
- which maintained the track and signalling;
- which managed the site and provided the staff;
- how were policies determined and disputes settled;
- how were costs apportioned.

References consulted

General:

- Handbook of Stations, Railway Clearing House, London 1904 Railway Junction Diagrams, Railway Clearing House, London 1915, reprinted David & Charles 1969
- J Simmons & G Biddle, Oxford Companion to British Railway History, OUP 1997
- H C Casserley, Britain's Joint Lines, Ian Allen 1968
- C R Clinker, Clinker's Register of Closed Passenger Stations, AvonAnglia, Bristol 1978

Particular:

H V Borley, Chronology of London's Railways, R&CHS 1982

C R Clinker, Stations in Hereford, Jour R&CHS, Vol. XXVII, pp 91-7, 1982

J V Gough, The Midland Railway, a Chronology, R&CHS 1989

K Hoole, Railway Stations of the North East, David & Charles 1985

J Marshall, Lancashire & Yorkshire Rly, David & Charles 1969

H W Paar, The Severn & Wye Railway, David & Charles 1963

Table 1. Jointly owned passenger stations

Station	Type	Stn Owners	Line owner (if not joint)
ABERDEEN JOINT	a	Cal and GNofS	
ABERSYCHAN & TALYWAIN	a	GW and L&NW	
ABERYSTWYTH	a	Cam and GW (Cam managed)	
ASHBOURNE	a	L&NW and NS	
AYLESBURY	a	GW&GCJt and Met&GCJt	
BARNSELY COURT HOUSE	d	GC and Mid	Mid
BIRKENHEAD PARK	b	Mersey and Wirral	
BIRMINGHAM NEW STREET	c	L&NW and Mid	L&NW
BRADFORD EXCHANGE	d	GN and L&Y (L&Y managed)	L&Y
BRISTOL TEMPLE MEADS	a	GW and Mid	
BROOM (JUNCTION)	d	Mid and SonA&MidJn	Mid
CARLISLE CITADEL	a	Cal and L&NW	
CARNFORTH	c	Fur and L&NW	
CHARD	a	GW and L&SW	
CHURCHDOWN	b	GW and Mid	
COCKERMOUTH	d	CK&P and L&NW	CK&P
COLNE	b?d	L&Y and Mid	Mid
COLWICH	a	L&NW and NS	
DISTINGTON	c	C&WJn and WC&EJt	
DROYLSDEN	c	L&Y and L&NW (?divided stn?)	
EGGINTON	c	GN and NS	
FERRYBRIDGE	d	S&KJt (Mid and NE)	NE
FISHGUARD HARBOUR	a	GS&W and GW (GW worked)	

HALIFAX	c?d	GN and L&Y	?L&Y
HAWES	a	Mid and NE	
HOLBECK LOW LEVEL	d	Mid and NE	Mid
HUDDERSFIELD	a	L&Y and L&NW	
KNOTTINGLEY	d	GN and L&Y	L&Y
LEEDS CENTRAL	a	GN, L&Y, L&NW and NE	
LEEDS NEW	a	L&NW and NE	
MACCLESFIELD HIBEL ROAD	b	L&NW and NS (?L&NW land?)	
MIRFIELD	?d	L&Y and L&NW	L&Y
NORMANTON	d	L&Y, Mid and NE (Mid man)	Mid
NOTTINGHAM VICTORIA	a	GC and GN	
PADDINGTON BISHOPS ROAD	b	GW and Met	
PENRITH	d	CK&P, L&NW and NE	L&NW
PERTH GENERAL	d	Cal, High and NB	Cal
PLYMOUTH NORTH ROAD	d	GW and L&SW	GW
PONTARDULAIS	c	GW and L&NW	
SIDDICK JUNCTION	d	C&WJn and L&NW	L&NW
STALYBRIDGE	d	GC and L&NW	GC
TEBAY	c	L&NW and NE	
VERNEY JUNCTION	c	L&NW and Met&GC	
WAKEFIELD KIRKGATE	d	GN and L&Y	L&Y
WAKEFIELD WESTGATE	d	GC and GN	GN
WHITEHAVEN BRANSTY	d	Fur and L&NW	Fur
WORCESTER SHRUB HILL	a	GW and Mid	
WREXHAM CENTRAL	b	Cam and GC(WM&CQ)	
YEOVIL TOWN	c	GW and L&SW	

Table 2. Divided and double stations, not jointly owned

ABERGAVERN JUNCTION	GW and L&NW	L&NW stn, GW land
ALTRINCHAM AND BOWDON	MSJ&A and CLC	
BERKELEY ROAD*	Mid and S&WyeJt	
BLISWORTH	L&NW and SonA&MidJn	two stns
BOAR'S HEAD*	L&NW and L&Y & LUJt so stn also jt	
BOAT OF GARTEN	GNofS and High	
BUTTINGTON	Cam and S&W'poolJt	

BUXTON	L&NW and Mid	two stns jt mgt
CAERSWS	originally two, Cam and Van.	later Cam only
CEMMES ROAD	originally two, Cam and Mawddwy	later Cam only
DUDLEY	GW and L&NW	two stns jt mgt
GLOUCESTER ROAD	Met and Met Dist	two stns
HIGH STREET KENSINGTON	Met and Met Dist	two stns
ILKLEY*	Mid and O&IJt	Mid managed
KEITH JUNCTION	GNofS and High	
LAUNCESTON	GW and L&SW	two stns jt mgt
LONDON VICTORIA	LB&SC and SE&C/GWR lessees from VS&P	
LYDBROOK JUNCTION*	GW and S&WyeJt	GW managed
LYDFORD	GW and L&SW	two stns jt mgt
MANCHESTER LONDON ROAD	GC and L&NW	also MSJ&A stn
MARKET HARBOROUGH	L&NW and Mid	joint management
MERTON PARK*	LB&SC and LB&SC & L&SW Jt	
NEWPORT (ISLE OF WIGHT)	lofWC and FY&N	sep stns 1913-14
PENISTONE	GC and L&Y	
PRESTON*	L&Y and NUJt sides, latter on joint line	
PURLEY JUNCTION	LB&SC and SE&C	
QUAKER'S YARD LOW LEVEL	GW and TV	
RHYMNEY BRIDGE *	L&NW and N&RJt	
ST IVES (HUNTS)*	GE and GN&GEJt	
SOUTH KENSINGTON	Met and Met Dist	two stns
TAMWORTH HL and LL	L&NW and Mid	two stns jt mgt
TEMPLECOMBE*	L&SW and S&DJt	
VICTORIA PARK	GE and NL	NL managed

* Divided stations where one owning/operating company was joint owner of the other.

Abbreviations used in text and tables

B'headJt	Birkenhead Joint (GW and L&NW)
Cal	Caledonian
Cam	Cambrian
C&WJn	Cleator & Workington Junction
CK&P	Cockermouth, Keswick & Penrith
CLC	Cheshire Lines Committee (GC, GN and Mid)
Fur	Furness

FY&N	Freshwater, Yarmouth & Newport
GC	Great Central
GE	Great Eastern
GN	Great Northern
GNofS	Great North of Scotland
GS&W	Great Southern & Western (Ireland)
GW	Great Western
High	Highland
IofWC	Isle of Wight Central
L&NW	London & North Western
L&SW	London & South Western
L&Y	Lancashire & Yorkshire
LB&SC	London, Brighton and South Coast
LUJt	Lancashire Union Joint (L&Y and L&NW)
M&GN	Midland & Great Northern Joint
Met	Metropolitan
Met Dist	Metropolitan District
Mid	Midland
MSJ&A	Manchester South Junction & Altrincham (GC and L&NW)
N&RJt	Nantybwich & Rhymney Jt (L&NW and Rhymney)
NB	North British
NE	North Eastern
NL	North London
NS	North Stafford
NUJt	North Union Joint (L&Y and L&NW)
O&IJt	Otley & Ilkley Joint
S&DJt	Somerset & Dorset Joint (L&SW and Mid)
S&KJt	Swinton & Knottinghley Joint (Mid and NE)
S&W'poolJt	Shrewsbury & Welshpool Jt (GW and L&NW)
S&WyeJt	Severn & Wye Joint (GW and Mid)
SE&C	South Eastern & Chatham
SonA&MidJn	Stratford-upon-Avon & Midland Junction
TV	Taff Vale
VS&P	Victoria Station & Pimlico
WC&EJt	Whitehaven, Cleator & Egremont Jt (Fur and L&NW)
WM&CQ	Wrexham, Mold & Connah's Quay (GC)

From the RCHS Photographic Collection No 15

Print RAC 131

A view from the Ray Cook collection, with nothing to indicate where it might be. If you can identify the locations or provide information about the views, please contact Stephen Duffell, Hillcroft, Ford, Shrewsbury, SY5 9LZ, or telephone 01743 851154 (weekends), or 01625 514828 (office hours), or e-mail stephen.duffell@syngenta.com.



From the RCHS Photographic Collection No 13

Print LGRP 27540

This station is Rufford on the Lancashire & Yorkshire Railway line from Liverpool Exchange to Preston, looking north-east. Planned by the Liverpool, Ormskirk & Preston Railway, this company amalgamated with the East Lancashire Railway in October 1846. The line was finished in March 1849, with the first trains running on the route and to Rufford on 2 April 1849. The station remains open to passengers, the goods service having ceased on 4 November 1963.

Thanks once again to John Edgington and Gordon Biddle for providing the answer to this query.

Correspondence

Navigation on the River Severn from the 15th to 19th centuries

During the period when Bewdley was a busy inland port on the River Severn, flat-bottomed shallow-draught trows were hauled up the river from Gloucester, first by teams of men called 'bow hauliers'. Under Acts of 1503 and 1531-2 a tow path was made along the right bank eventually enabling horses to be used from Gloucester to Shrewsbury. Some trows operated right through, as recorded in the Gloucester Port Books. Above Bewdley the gradient steepens. Smaller boats brought coal from the Wyre Forest collieries and iron from Coalbrookdale and smaller ironworks along the river such as Eardington and Hampton Loade, and also carried return cargoes up-stream from Bewdley.

The surface current, normally about 2 mph at Bewdley, could vary from a slow trickle in time of drought to a terrifying 20 mph or more as we saw in the floods of autumn 2000. From figures supplied by the Environment Agency at Solihull, Birmingham, taken at the Ultrasonic River Flow Measurement Station above Bewdley at Grid Ref S0 782 762 on 23 August 1989 the whole volume flow was 0.1554 metres/second or 0.3477 mph. On 2 November 2000, at the height of the flood, the whole-volume flow was 1.557 metres/second or 3.484 mph, more than ten times the speed in August 1989. Following prolonged heavy rain in mid-Wales the river can rise 6ft in a day. The current is swiftest on the surface in the middle of the river which explains the treacherous undercurrents for which the Severn is notorious. On such a river navigation was possible on only a limited number of days in the year.

I have been trying to discover how boats were steered and controlled when they were taken down-stream with return cargoes. The answer commonly given, by people who should know better, is that they floated down with the current and were steered by the rudder. The point in question is that unless the boat is moving *in relation to the water* the rudder is ineffective. The boat must be pulled faster than the current or held back to a slower speed to maintain steerage way. The trows had sails which might help when the wind was right, but which would be useful mostly below Gloucester. A paddle might change the direction in which a boat was facing but could scarcely alter its position in relation to the bank or a bridge.

I brought up this question at a recent meeting of the West Midlands group of the Railway & Canal Historical Society and an interesting discussion followed. Various suggestions were considered. In a fairly swift current would a heavy weight, such as an iron chain, be dragged along the river bed to slow down the trow to obtain steerage way? Were two ropes, one from each end of the trow, used to control it from the towpath while the crew of the trow used poles to keep it clear of the bank or a bridge abutment or pier? From old pictures it appears that the tow rope was attached half way up the mast. The only bridges which crossed the river, at Upton, Worcester, Bewdley and Bridgnorth had no provision for a tow path. Another question now arises. How were up-stream boats hauled through a bridge? Would the two rope be attached to the stern and hauled up to the bridge by which time the bow was out on the up-stream side of the bridge and a line could be thrown to a man standing in the bow? During this operation the boat could be kept close to the bank by the rudder. Boats going down-stream would similarly have to be controlled, probably from a line at the stern. It is interesting to note that three bridges above Bewdley: the Tenbury & Bewdley Railway at Dowles (1864); the Elan Valley

aqueduct (1906) and the Severn Valley Railway Victoria Bridge (1861) all had provision for a two path on the right bank. Other 19th century bridges had no tow path provision.

Handling traffic on such a treacherous river would be a skill handed down from master to apprentice for 500 years. As long ago as that the River Severn was carrying more traffic for a greater distance than any other river in Britain. Large numbers of men would be employed in this operation. Few, if any, would be literate and no description has been found of how their work was carried out. Local historians, doing valuable work with existing records, do not concern themselves with these operational questions because no contemporary records have been found. Local guides showing visitors round Bewdley point to grooves cut by ropes into an iron bar round the down-stream facing ring in a small side arch of the bridge, but they cannot explain the operation which caused them, or why there are no grooves in the up-stream facing ring of the right river arch. How the boats were hauled through the bridge cannot be explained. Can anyone help towards solving these historical problems? JOHN MARSHALL

The Peak Forest Railway

I read with great interest Brian Lamb's enjoyable article on the Peak Forest Railway (Tramway?) in Edition No. 178 of your Journal. I was very disappointed that Brian did not mention the role of this Society in the history of the PFT because the IWPS Ltd. (members assisted by our records and English Heritage approved Archaeologist) has a great deal more recent information which tends to supplement rather than dispute that research undertaken by earlier historians. The maps and drawings are dated 1993 but the main body of the work, learned as it is, does not appear to have been updated since 1993 other than to mention the referendum in 1999 regarding 'Buxworth' or 'Bugsworth' as the name of the village.

The statement that all that remained post-1928 following removal of the scrap to Edgar Allen's was just 'useless junk' is unwisely wide, not correct and was not correct in 1993. Whilst the Basins were being dredged our excavators were bringing up bucket after bucket of all sorts of ironwork – rails, saddles, wheels, fishplates etc. etc. We have in store literally hundreds of such artifacts weighing several tons and all waiting to be researched and catalogued. We speculated at the time as to why we would come across such treasure-trove of industrial archaeology in specific places. One idea was that the workers dismantling the tramway would set aside bits to collect and 'weigh-in' later for beer money. The fact the artifacts remained hidden until we came along with a serious and informed attitude to the history of the place is something fortuitous in the extreme.

Our 'collection' of artifacts contains numerous different types of pedestalls (saddles), including those that were on the wagon tipplers, rails of different profiles including hump-back rails, fish-bellied rails, some with PFC cast on to them, cross-overs, level crossing rails, points systems and even curved steel rails which have sometimes been said not to exist. We have wagon parts including axles and we are in a position to replicate a complete wagon for future display. We have several chains and hooks used to brake the wagons, saddles still attached to their blocks and hundreds of smaller artifacts like pins, wrought iron securing spikes etc.

I would also just like to comment on Brian's statement that the three types of sleeper blocks (actually there are many more) may still be seen at Bugsworth today although not in their original location. The fact is that when clearing the wharves etc. our volunteers

moved no stones. Where you see them now is where they can reasonably be expected to have always been. A notable exception is the South Wharf of the Upper Basin (the Crane Wharf) which is in fact outside the Scheduled Ancient Monument and which has been disturbed many times for the laying of high voltage electricity cables and other services as well as disturbance by the construction of the Whaley Bridge By-Pass.

Those stones that are there now are for illustrative purposes only and laid in an *obviously wrong position by volunteers* at the behest of English Heritage. A similar situation exists on the tramway embankment bridge where several different types of rails were laid down for educational purposes and not in line with the undisturbed track bed. On the central peninsula at Bugsworth a long line of sleeper blocks are missing. Why this is so we do not know and why just here is an even greater mystery. The fact is that when we cleared off the overlay of debris they were not there.

Our valuable collection of artifacts from the Peak Forest Tramway remains in store awaiting experienced research. The IWPS Ltd. Presently has its hands full trying to get navigation back and maintaining the Basin structure. We really need help to do research work on our artifacts. If any of your readers would like to take on this worthwhile task I do ask them to contact me. They must be prepared to work within English Heritage Guidelines and in co-operation with our approved Archaeologist responsible for the Monument. Facilities could be provided in Cheshire for this work.

None of our volunteers are paid, all cover their own expenses and work goes on throughout the year. The only remuneration we get is an immense satisfaction of a job well done on a wonderful heritage site.

Anybody interested in this project please contact me at the address above or by telephone on 01663 732493. Ian Edgar, Chairman, IWPS Ltd. Hon. Site Manager, Bugsworth Basin Restoration Scheme

Peak Forest Railway

Brian Lamb in his article *The Peak Forest Railway, 1795 to 1928*, claims that the word tramway is comparatively modern. While it may not have been used by the Peak Forest Railway to describe itself, the term is much older than the date of 1905 which he mentions. The *Falkirk Herald* of 17th October 1861 had a little aside entitled "The origin of Tramways", which draws much on a then recent article in *Builder*. This was devoted to the term, essentially musing on whether it arose, as claimed, from Benjamin Outram's name. It is clear from the context that the term was then well accepted. DAVID STIRLING

The Clinker Lecture (1999)

Mr Gibbins' letter in the July 2001 issue of the *Journal* raises a number of matters concerning which I would need more time, as the historian of the bus industry, to consider. But there is a point here which I suggest he neglects.

In my days as a railway officer, which covered the period of the 'Beeching closures', and beyond, and with prior experience as a bus company manager, I concluded that a great many lines and stations could well have been closed at any time from the 1930s, by when the bus industry was better able to serve rural communities. Buses, after all, stop all the way down the village street, and then go into the centre of the town, avoiding the need to walk often considerable distances at each end of the journey. (My own Clinker Memorial lecture of 1999 illustrated this in the case of the Audley End – Bartlow branch line).

The closures, very many of them necessary as we in the British Transport Costing Service knew well, might have taken place over a longer period, with less controversy, while providing a generally improved transport service. Why was the closure by the LNER of the minor intermediate stations between York and Scarborough in 1930 not repeated elsewhere – it did not even require a subsidy to the bus company? And would the Great Western have tackled closures if it had remained a bus operator in its own right? After all, the Great Eastern had used its buses to avoid building branch lines at the start of the century.

The question that I would ask, then, is this. What barriers were there, prior to 1962, to 'the closure of branch lines and intermediate stations'? Or was it, after all, something like managerial incompetence – or prejudice? JOHN HIBBS

BOOK REVIEWS

EARLY RAILWAYS, Edited by Andy Guy and Jim Rees, viii + 360 pp, illus., maps and drawings, hard covers 245 x 175mm, The Newcomen Society, London, 2001 ISBN 0 904685 08 X, £29.95.

Here we have 21 papers selected from the 33 presented to the first International Early Railways Conference at Durham in 1998. The normal 'early period' was extended to 1840 in order to include the overseas experience which followed early transfers of technology. The subjects range widely, including ancient railways, waggonways (South Wales tramroads, the Nantlle Railway, James Watt's proposed Scottish lines, the Kilmarnock & Troon Railway and Dorset's Middlebere plateway), early motive power (steam locomotives, rope haulage, monorail systems) and some more general but no less interesting themes – the bank financing of coal railways, railways and regional identity, business failure (exemplified by the commercial suicide of the Stanhope & Tyne Railway) and early railway illustrative materials. Ranging beyond our shores, trails take us to Germany, France, North America and Canada. Most readers will, having lighted upon those papers with immediate appeal, go on to find something useful on every page, including the mainly functional Notes (references), which can provide *inter alia* a good Stephenson anecdote (p.249).

Taking a specific example, the papers on northern locomotive pioneers and the *Steam Elephant* present reassessments incorporating much newly-discovered information, mainly from county record offices (Dendy Marshall and his contemporaries did not have their benefit). Also, when extracts made from long-known sources were seen in the original, fresh information often resulted – and important point for all historians to remember. The solution of some locomotive mysteries and the improved understanding of others is both valuable and highly interesting and so is the commentary upon the careers of some engineers. George Stephenson, it seems, did not remain simply 'one of Nature's gentlemen' but was carefully packaged and presented, like today's public figures, while John Buddle, hitherto only a shadowy figure in locomotive history, is ushered closer to centre stage, as befitting the more important role which, evidence shows, he played.

Regarding the twelve unpublished papers, their titles indicate subjects of considerable promise, and while four of them are reflected in work already published by their authors it is to be hoped that all will be printed in the future.

The book is handsome, well made and bound in a richly-coloured jacket. The illustrations are mostly novel, but some are faint, probably due to the antiquity and nature of the original images. The few text errors are mostly trivial, but at p.2, Lee's *The Evolution of Railways* was first published in 1937, the second edition following in 1943. At p.107 it seems that the breadth of 3½" on the sketch should read 5½", as the text (p.106) gives the "tread" of the tramplate as 3½". A small school of rogue hyphens has produced several articulated words such as pub-lished (p.189) and automat-ically (p.199).

The authors are research historians, reporting results in order to update a long-dormant literature, to present neglected aspects or to expand themes upon which, hitherto, much effort has been spared. This reviewer counts himself fortunate in seeing the book, for he feels that too much railway literature has been devoted to nostalgia and too little to developing the facts of history, and this volume could be a turning point whence the balance is redressed significantly. Yet the writers have demonstrated that thorough, sourced accounts of events do not have to be devoid of human interest, occasional humour and even drama.

The research involved was probably prolonged and rarely easy, but the effect on the record is that of a star-burst, throwing light into the hidden corners of early achievement and, it is to be hoped, acting as an exemplar for like minds to follow, for many more such reappraisals are needed. HARRY PAAR

A HISTORY OF NORTH EASTERN RAILWAY ARCHITECTURE, VOL 1, THE PIONEERS, Bill Fawcett, 184 pp, numerous illustrations and drawings, hardback, North Eastern Railway Association, 2001, ISBN 1 8735 34 8, obtainable from Sales Officer, NERA, 31 Moreton Av., Stretford, Manchester, M32 8BP, £18.95.

Here new ground is broken: the first book to this reviewer's knowledge that comprehensively examines the architecture of a single railway company in the same detail hitherto reserved for locomotives and rolling stock, yet in an eminently readable style without, to paraphrase Sir Neil Cosson's memorable remark, the rivet-counting. The result of many years' study, this volume is the first of three which will go on to cover the work of the NER's architect's department – one of the first to be set up by a railway – and its successors under the LNER and British Rail, both of which maintained an architectural design office at York.

As the sub-title implies, Volume 1 deals with the North Eastern's early constituents, not only the work of well-known men like G T Andrews, John and Benjamin Green and John Dobson, but of lesser-known figures too, together with interesting biographical assessments. George Hudson's influence, without which the money would not have been forthcoming for so many of the area's fine stations, also receives due recognition. Copious references reveal the depth of the author's research, much of it original. There is a good index, but no glossary, although doubtless one will be provided in the final volume. Most of the exquisite drawings and fine photographs, including colour, are by the author, printed throughout on art paper. Indeed, the whole book is largely as well, with skill and care which more than one commercial publisher could well emulate? The NERA must be congratulated on its publishing enterprise, not least for under £20: another bargain. GORDON BIDDLE

THE HISTORY OF THE RIVER DEE, Mike Griffiths, 191 pp, 30 photographs, softback covers, Gwasg Carreg Gwalch, 12 Iard yr Orsaf, Llanrwst, Wales LL26 0EH, ISBN 0 86381 553 7, £7.95.

This book should perhaps be titled "A History" rather than "The History", as it covers only some aspects of the long history of this River. It shares with numerous "river" books a tendency to discuss sections which were never navigable, along with stories about various bankside settlements. For instance, this includes much about the city of Chester, airfields by the tidal Dee, and Llyn Brenig, the 1976 reservoir which partly regulates the river's flow. Interview transcripts include both material about shipping and ferries across the river.

There is some discussion of navigation on the non-tidal section above the Chester weir, but the main interest lies with the tidal Dee. The most useful details concern the Connah's Quay Docks, over which the 1929 inquiry papers have been helpfully analysed, while appendices list ships and wharves along the tidal river at various periods. There are many sources, such as the *Royal Commission on Canals* of 1906-10, which do not appear to have been consulted. However, among the miscellany presented here, there is much detail which could contribute to a detailed history of navigation on this river. JOSEPH BOUGHEY

STAITH TO CONVEYOR: AN ILLUSTRATED HISTORY OF COAL SHIPPING MACHINERY, Terry Powell, 132 pp, 282 x 214 mm, 66 photographs, 105 drawings, 31 maps and plans, card covers, Chilton Ironworks, 23 Atherton Drive, Chilton Moor, Houghton-le-Spring, Tyne & Wear DH5 6TA, 2000, ISBN 09523672 5 4, £16.50 incl. p&p.

Throughout the nineteenth century and the first half of the twentieth, coal was the predominant traffic of both railway and coastal shipping. There have been descriptive articles about the mechanical handling machinery used for transferring coal from rail to ship at some individual ports, but this is the first attempt at a comprehensive study of a subject that is important in the history of both modes.

The story is complex, as it is not one of progressive development towards an optimum solution. All designs tended to be a compromise: drops, which lowered the wagon or a demountable body down to the level of the ship's hold, were slower but avoided breakage of the coal which reduced its value, particularly in the case of household coal; inclined spouts, shoots or hurries were faster, resulting in better utilisation of the ships and the ship-berths. The wagons might run onto elevated gears, trunks or staiths, as on the Tyne; but in most docks they arrived at quay level and, before the development of the conveyor, had to be raised by a hoist or crane. Depending on geographical region, the machinery would be designed for either bottom-discharge or end-discharge wagons, or in some districts both; ever since the tramroad era the north-east favoured bottom doors and then hopper wagons, whereas South Wales favoured end doors. The resulting text is somewhat confusing, but it is made intelligible by the well-chosen illustrations, including many excellent drawings by the author.

To set all this in context, there are also chapters outlining the parallel development of the tramroads, railways, docks, hydraulic power, ships and wagons associated with the coal trade. This is a useful contribution to the history of coal transport. GRAHAME BOYES

THE CRY OF THE HERON, Dick Allan, 240pp, softback, Longfellow Publishers, The Spinney, Parkside, Farnham, Surrey GU9 0JP, 2000, ISBN 0953 3291 27, 2000, £7.99.

Accounts of life on British Waterways in fiction are relatively few. One of the earliest was *Crotchet Castle* by Thomas Peacock which, published in 1831, included the account of a pleasure voyage on the Thames & Severn Canal. This was followed a few years later by Charles Dickens's description in the *Old Curiosity Shop* of how Little Nell and her grandfather travelled down to London on the Grand Junction Canal. In more recent times Lord Frederic Hamilton chose to use Hardham Tunnel on the Arun Navigation as the spot where a German Spy would attempt to blow up the Royal Train as it passed overhead in 1915. C S Forester narrated in *The Cruise of the Atropos*, 1953, how Hornblower travelled by passage boat from Gloucester to London passing along the Thames & Severn Canal and through Sapperton Tunnel.

Now Dick Allan has based 'The Cry of the Heron' on life on the Wey Navigation and Basingstoke Canal towards the end of the eighteenth century. This story is good in the way it gives a realistic picture of canal life. Its historical detail has been well researched and its sources acknowledged. Readers will chuckle at the way Dick Allan has interwoven fact and fiction to produce an interesting account of barge family life in the Home Counties.

Seth Adams might have avoided being impressed if the Wey proprietors had included his name on one of their many applications to the Lords Commissioners of the Admiralty. In the late 1770's these were granted for the protection of individual bargemen from the press gangs. Those who are intrigued by the behaviour of the tunnel builder Charles Jones may be surprised to learn that, after leaving the Basingstoke Canal, he and his son Samuel obtained the contract in 1791 to build the Rother Navigation from Stopham to Midhurst. Readers may not be surprised to learn that they were unable to complete the work. PAUL VINE

GOODBYE TO VICTORIA, Peter J. Keat, 96 pp, 63 photographs and drawings, 23 diagrams, paper covers, Oakwood Press, 2001, ISBN 0 85361 569 1, £8.95.

Queen Victoria died on 22 January, 1901. Oakwood Press has marked the centenary with a *Locomotion Paper* which, stylistically, could have been published in, say, 1905. There are not twenty-first century comments or perspectives. The book covers much more than the railway journeys, but it is noteworthy that they all took place on one day – Saturday, 2 February, 1901. That day, the L & SW and the LB & SC brought the Queen's coffin up from Gosport (dep. 8.45 a.m.) to Victoria (arr. 11.00 a.m.) and then, after a procession through London, the Great Western funeral train left Paddington at 1.00 p.m. for Windsor (arr. 1.30 p.m.). The events described seem almost familiar, so lasting has been the 1901 imprint on later royal funerals.

Mr Keat acknowledges many sources; there is no reference to company records. The reproduction of several traffic notices vividly illustrates the care taken over both rail safety and wider security when an unprecedented number of crowned heads travelled together. The oddest railway ingredient, the story of the last minute use of communication cords to draw the gun carriage from Windsor station to the castle, could have been more clearly told.

A significant centenary, suitable marked. ROGER DAVIES

FROM THE AIR: BRITAIN'S RAILWAYS THEN AND NOW, Aerofilms, 248 pp, 250 monochrome photographs, some key diagrams, A4, hard covers, Ian Allan, 2001, ISBN 0 7110 2729 3, £35.00.

This is the second volume of aerial 'then and now' railway photographs. The 'then' pictures are not very old, the oldest is 1920 and the most recent 1974. Few are after the decline of rail traffic. The 'now' pictures were all taken since the beginning of 2000. The pictures are clear, detailed and dated to the day. Consequently, they are an impressive and accurate record of the physical decline of the railway system of the United Kingdom.

Most of the pictures are of towns, cities and stations and most show the surroundings as well as the railway. The changes in buildings, roads and all other physical features of the places depicted show as well. We all know what has changed but here we see the changes and the scale of them confirmed. The disappearance of sidings and goods yards, of engine sheds and of most of the nineteenth century railway buildings. Every town used to have its gas works railway served. So many undistinguished small housing estates have appeared where railway installations were before. And nearly everywhere, goods yards have become car parks.

Every pair of photographs is accompanied by a factual and, apparently, accurate description of the railway features in the 'then' picture and the 'now'. Dates of openings and closures are given not just for stations but the engine sheds, carriage sheds, goods stations and docks and harbours. For many of the more complicated railway installations, a key map is included to help the reader find the things described in the text. The most dramatic pictures are some of the big ones – Kings Cross and St Pancras for example where the passenger stations are still there but the huge goods yards have gone – and some of the small ones. Look at Craven Arms in 1948 with three signal boxes, a canopied passenger station with water towers, engine shed, carriage shed, goods yard and gas works and everything active. And in the 'now' picture – only one signal box, no station buildings and a deserted carriage shed.

For the railway enthusiast, this book is no fun. It reminds us starkly and sadly of what has passed. For the historian it is a mine of comprehensive reality. A book to enjoy and value. Strangely, nobody is credited with the photographs. More strangely, nobody is credited with the text. Whoever it was knows their stuff. MARTIN BARNES

STOURPORT-ON-SEVERN, compiled by Anna Carter for Stourport Civic Society, 128pp, 205 photographs, one map, soft covers, Temple Publishing Ltd., 2000, ISBN 0 7524 2058 5, £9.99 (with p&p £10.39), available from Anna Carter, 6 Lichfield St., Stourport-on-Severn DY13 9EU.

Stourport-on-Severn was largely a creation of the canal age and is probably the most complete remaining example of such settlements, though some of it has gone.

The book, after a short introduction "Before the Canal", consists entirely of well captioned old photographs, divided into ten sections, of which the first two, about the canal and the Severn will be of most interest to transport historians. Of particular note are a photograph of Edward Leader Williams, the celebrated navigation engineer and others of the early "Canal Pleasurecraft" hire boats. Some of the later sections have transport and industrial interest too- Stourport had a diversity of factories: Baldwin, steel works owner and prime minister lived here, the end of the sauce industry in 2000 is

depicted.

The book will have most significance for those who know Stourport well: for those who do not there is much of interest in the work, though an outline modern map with street names would have made the illustrations easier to place. IAN MOSS

AN ILLUSTRATED HISTORY OF THE LEWES & EAST GRINSTEAD RAILWAY, Klaus Marx, 256pp, 292 x 212 mm, 242 photographs, 29 maps, plans and diagrams, boards, Ian Allan (Oxford Publishing Co.), 2000, ISBN 0 86093 547 7, £35.00.

Ian Allan has surpassed even the standards set by the original OPC. This is branch line history on a grand scale – bigger than Reed's history of the entire London & North Western Railway. Almost every detail imaginable of the promotion, construction, physical features, operation and closure of the line is covered – too much to summarise adequately here – but wisely not its subsequent partial re-opening as the Bluebell Railway. The author's reputation as historian of the London Brighton & South Coast Railway in general and the Bluebell Railway in particular is such that there can be no doubt that all is recorded accurately. The quality of production is high. Connoisseurs of this genre of railway history could scarcely be better served.

The most intriguing question raised, but not discussed, is why the LB&SCR agreed to build such an unpromising line. The idea that in 1877 it was still having to defend its territory from the South Eastern Railway or a newly-promoted company is unconvincing. Having decided to build the line, why did it equip its stations on such a lavish scale that operating economies had to be introduced even before the First World War? The same questions arise on its Chichester-Midhurst line opened a year earlier. Were there some other influences at work here or were the LB&SCR directors just not very competent? GRAHAME BOYES

THE VECTIS CONNECTION, Peter Newberry, 144 pp, 159 photographs, 6 maps, soft covers, Waterfront, 2000, ISBN 0 946184 90 9, £14.95.

In recent years, there have been several books about aviation in the Isle of Wight area but each one has focused on a particular period or subject, in this case airlines to the island in the inter-war years. International air transport began in 1919 but did not affect the island and there were no sustained scheduled domestic services in the decade after the war. The author explains that a change towards scheduled services came in 1929 with the formation of Inland Flying Services Ltd in Essex which within weeks had transferred its operations to a new aerodrome at Apse near Shanklin. The first activities were of a joy riding nature but with a change of management in 1932, the company was re-named Portsmouth, Southsea & Isle of Wight Aviation Ltd and began schedules between Portsmouth and Ryde. Over the ensuing years, the airline grew rapidly expanding both its network to include Bournemouth and Southampton and its frequencies which in fact became almost a shuttle on some routes.

Another chapter is devoted to Spartan Aircraft Ltd whose sister company Spartan Airlines began a scheduled service from Cowes to Heston in 1933. In the meantime, the mainline railways decided to go into air transport. The railway plan was to use Imperial Airways to operate the aircraft but this was complicated when the owners of Spartan expressed a wish to co-operate with the state-sponsored airline. The result was a

partnership between the Southern Railway and Spartan on the London/Isle of Wight route. It was interesting that PSIoW added Heston (for London) to its network in 1934 but withdrew the service at the end of 1935 to avoid the railway booking ban. The railway service, which was seasonal, was not resumed in 1937.

Richly illustrated, this work is to be commended as an excellent piece of research and it is sad that the author, who was a member, died a few days after the publication of his book at the beginning of the year. The author had also been commissioned to write a history of Portsmouth as a port. This had been completed at the time of his death with the exception of the last chapter. JOHN KING

FURNESS RAILWAY, A VIEW FROM THE PAST, Howard Quayle, 96pp, 146 b/w photos., 5 maps, 16 facsimile reproductions, boards, Ian Allan, 2000, ISBN 0 7110 2756 0, £15.99.

The bibliography in this small volume suggests there may not be space for another Furness Railway history. The layout is reminiscent of the same publishers *Trains Illustrated* of the 1950s, indeed the lower photograph on page 89 is almost identical with that on page 87 of *Trains Illustrated Annual 1959* though the latter has a headlamp on the chimney bracket! Photographic reproduction is uniformly good but too much is too small. The sometimes jumbled presentation of text, photographs and captions is marginally clarified by presenting the latter on a grey background through this seriously reduces legibility. Captions in a box might have served better. There is no index. Conishead is misspelt on the endpaper maps.

Mr Quayle has produced a cross between a small history book and a picture album. The result is disjointed though the essential history of the FR (but not of its successors) is covered. There are two pictures at the relevant Carnforth platform but thankfully no reference to 'Brief Encounter', too late! The 8th chapter and 37 of the 96 pages are devoted to the company's locomotive engines, an interesting lot in early and last days but otherwise a mundane collection. Shipping, both lakebound and maritime gets fair mention but there are no details of propulsion machinery. As in previous publications on the FR, Mr. Aslett's frenzied development of the tourist potential of the area is adequately covered. PAT McCARTHY

LOST LINES – BRITISH NARROW GAUGE, Nigel Welbourn, 128pp, 247 photographs and 31 maps, soft covers, Ian Allan Publishing, 2000, ISBN 0 7110 2742 0, £12.99.

Clearly intended for those whose knowledge of the narrow gauge is somewhat limited, this book is a pleasant trawl through most of those lines in Britain and Ireland that have operated public passenger services plus a small selection of the many industrial systems that at one time existed. The illustrations are nicely reproduced but, apart from those showing the present scene, a good proportion of the historic views will be familiar to keen small-gauge enthusiasts. Only about 23 pages in total are left for the text, so this is primarily an 'album' style of publication.

None of the maps, of which 13 are reproductions of old OS sheets, have any indication of scale, which reduces their usefulness. There are a few sloppy errors, such as confusion over the wheel arrangement of the Corris locomotives. The narrow gauge train shown in Skibbereen station is not about to leave for Cork and the 15 inch gauge stock at the re-opening of the Ravenglass and Eskdale did not come from Eaton Hall.

The first two words of the title are best ignored. The Sittingbourne & Kemsley, Leighton Buzzard, Snowdon Mountain, Festiniog and Talylyn Railways cannot be considered as lost by any stretch of the imagination, and neither can items pictured in museums. However, if a wide selection of narrow gauge photographs, with some notes on the lines involved, is required and all at a cost of less than 6p. per print, then this book can be considered of reasonable value. BOB MILLER

WATERWAYS JOURNAL VOLUME 3, 2001, Boat Museum Society, South Pier Road, Ellesmere Port, 74pp, numerous illustrations, softback covers, ISSN 1466 3732, £5.99.

This is the third volume of this annual Journal, founded by the Boat Museum Society. As before, this volume comprises four long articles, copiously illustrated. All but one article are by R&CHS members. Hugh Conway-Jones provides a useful history of the Severn & Canal Carrying Company, beginning with its 1830s predecessor, through the Company's founding in 1873 to its sale in 1948. Mike Clarke contributes stimulating discussions, supplementing those in the first volume, of early boat-building and the origins of the narrow boat; illustrated by numerous detailed photographs. He suggests that techniques developed for the narrow boat in North West England originated in the Severn area.

Edward Paget-Tomlinson covers the history of a single historic craft, the Weaver flat *Daresbury*, and explorations to record and attempt to revive it since 1956. The final piece, by non-members of the R&CHS, also concerns a single craft, and its owners. *Friendship* is the 1924 narrow boat displayed on the first floor display of the Boat Museum since 1981. Tony Lewery discusses his attempts to research an authentic restoration of the cabin paintwork, last painted in the 1950s. Philip Kidd provides a detailed account of the lives of the Skinners, the "Number Ones" who owned the boat during its working life.

Some of the details in these pieces may be seen as idiosyncratic, but the studies of boats do help to enlarge knowledge in areas which have not been explored as closely as waterways themselves. JOSEPH BOUGHEY

THE RAILWAY PHOTOGRAPHY OF HENRY PRIESTLEY, Colin Garratt, 156pp, 185 photographs, boards, Sutton Publishing Limited, Phoenix Mill, Stroud, Gloucestershire GL5 2BU, 2000, ISBN 0 7509 2508 6, £19.99.

For a photographic album this is a book with a very interesting story. It is a major collection of photographs, discovered only after its unfortunate dispersal and then painstaking work to begin to rebuild it.

The photographs range from the 1920's over some 50 years. The photographer roamed widely and has captured such a variety of activity and infrastructure that few will fail to be captivated. Locomotives are not the focus, it is the railway itself – although locomotives of all shapes and sizes there are in quantities. Many of the pictures are 6" x 4" landscape. The larger single and double page spreads are welcome. The captions are full of detail, if sometimes over effusive and occasionally repetitive.

The book may annoy readers who specialise in one railway or another – the range of views and subjects has been difficult to order as so much ground is covered. It is well presented and the quality of the photographs shines through in the printing. TONY CONDER

THE COCKERMOUTH, KESWICK & PENRITH RAILWAY, Robert Western, 200pp, 89 b/w photos., 15 maps, 22 facsimile reproductions, paperback. Oakwood Press (LoRH 113), 2001, ISBN 0 85361 5640, £12.95.

A book from Oakwood can be expected to be good. This volume upholds expectations. The production has the usual clarity of printing of text, photographs and OS extracts, only the detailed plans are rather small. The A4 page size is most handy.

Mr Western has produced almost an annotated chronology of the CK&P years based on the company's minute books with a lightness of touch and occasional humour. In the LMS and BR periods the discipline is a little lost but the story remains coherent. Mention is made of the Newcastle ramblers' train. The sight and sound of a "Scot" piloted by a "Black 5" getting 12 or more bogies out of Threlkeld on a summer Sunday evening is not easily forgotten, 'thanks for the memory!' An oddity is an excellent photograph of a major engineering work carried out nearly at the end of the line's life, realignment at Penrith for the M6 motorway, without mention in caption or text! Writer and publisher are to be congratulated on a job well done. PAT McCARTHY

NORFOLK RAILWAYS, William H Smith, 160pp, 233 b/w photographs, 1 map, hardback, Sutton Publishing, 2000, ISBN 0 7509 2308 3, £14.99

This is a book in the usual Sutton Publishing format with the emphasis on photographs. These are in black and white and well produced, accompanied by a concise text. The book deals with the history of the railways of Norfolk. The introduction gives a good overview of events in the development of the railways of the county. The rest of the book is divided into sections dealing with the various areas of the county i.e. North East, East, West and Central Norfolk. There is a map of the various railways at the beginning but it is not to scale and does not mark all the locations mentioned in the photographs. Each section includes a short history of the lines in that area and a selection of photographs with good captions. There are acknowledgements and a bibliography at the end. On the whole, this is a well produced and interesting book giving a good picture of the railways of Norfolk. GRAHAM WILD

BRANCH LINES AROUND TIVERTON, Vic Mitchell and Keith Smith, 120 photographs, 28 diagrams, boards, Middleton Press, 2001, ISBN 1 9011706 62 1, £13.95.

This latest book in the ever-growing Middleton Press catalogue brings the total in its branch lines series alone to 43 and follows the well-tried format of a photographic collection with most of the text as extended captions. At first glance one feels "There's not much new in here". After all the two lines principally covered – the Exe Valley and the Culm Valley-have been so much photographed with very little change in buildings or rolling stock during the last 40 years of passenger traffic. In fact, looking just a little deeper reveals many snippets. Not least details of how milk tanks were actually worked between station and dairy at Hemyock. Anyone who wants to study the fascinating economic ups and downs of two peaceful GWR byways will, as usual with this series, find the breakdowns of traffic for individual stations particularly useful. The book also extends the information in most previously published material by covering the diesel freight services that went on for 12 years after closure of the Culm Valley to passengers in 1963. This includes final proof that a Hymek did work the Culm Valley at least once.

Modellers will revel in the information here. Anyone wishing to create a compact layout of a GWR branch line station with a small but interesting goods yard could hardly do better than Uffculme. Messrs. Smith and Mitchell deserve thanks and congratulations for the continuing quality and value of their work. BRIAN WESLEY

NEWTON ABBOT TO PLYMOUTH, Vic Mitchell and Keith Smith, 96pp, about 120 photographs, 20 diagrams, boards, Middleton Press, 2001 ISBN 1 901706 60 5, £13.95.

This is one of the authors' now familiar guides; there is a brief geographical and historical introduction as a prelude to photographs and historic maps (twenty inches to the mile) of all the significant locations on the route. Trains are the major feature of about half the photographs and the general reader will find some illustrations repetitious, but the accompanying commentary is good and some of the information out of the ordinary – details of the Redlake Tramway near Ivybridge, and of Totnes Quay are specially interesting. Outlines of appropriate Edmondson Tickets are used as 'infills' – one with a portion for admission to Paignton Zoo. There are useful summaries of the traffic volumes at some of the stations. IAN MOSS

SAMUEL LAING OF PAPDALE, R.P Fereday, 380pp, 19 monochrome photographs, hard covers, Bellavista Publications, Kirkwall, Orkney KW15 1TB, ISBN 0 952350 5X. £14.95.

Who would have thought that the above autobiography published in the far north of Scotland at Kirkwall in the Orkneys would have anything of historical interest concerning transport in the south of England? Such however is the case. For, as an Ensign in the Royal Staff Corps, Laing superintended the construction work on the Royal Military Canal in Kent during the period 1807/8 when he was quartered at Hythe and then Appledore. His son, also named Samuel Laing (1811–1897), started as Private Secretary to the President of the Board of Trade in 1839 and went on to become a Railway Counsellor which made him about £11,000. From his home at Sydenham, he found time to become a Director of the London Brighton & South Coast Railway who paid him £1,500 pa. HUGH COMPTON

THE STOKE TO MARKET DRAYTON LINE AND ASSOCIATED CANALS AND MINERAL BRANCHES, C.R. Lester, 56pp, photographs, maps and gradient profile, soft covers, Oakwood Press Locomotion Papers 142, 2001, ISBN 0 85361 293 5, £5.95.

I admired this short history when it was first published in 1953. It is an affectionate portrait by a retired Police Superintendent, born of boyhood memories. His text and photographs, unaltered with the exception of the front cover, have been glossily packaged and present a most attractive book.

In this age of correctness, I must point out that the bibliography mentions a North Staffordshire Railway history I co-authored with R. W. Miller. When it was first published, I praised C R Lester's book before realising that. REX CHRISTIANSEN

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